



Forsyth Technical Institute

GENERAL CATALOGUE 1971-1973

*Visitors to the Institute are welcome.
The Institute's offices are open from
eight a.m. until ten p.m., Monday
through Thursday, and from eight a.m.
until five p.m. on Friday.*

FORSYTH TECHNICAL INSTITUTE
GENERAL CATALOGUE

1971-1973



TABLE OF CONTENTS

GENERAL INFORMATION	1
Academic Calendar 1971-73	2-3
Purpose	4
History	4
Location and Facilities	5
Hours of Instruction	5
Accreditation	5
Programs of Study	5
Admissions	6
Placement Tests	9
Student Classification	10
Transfer Students	11
Pre-Technical Program	11
Registration	11
Late Registration	11
Learning Laboratory	12
High School Equivalency	13
Financial Information	13
Tuition	13
Student Activity Fee	14
Resident Status	14
Tuition Refunds	16
Breakage Fees	16
Scholarships	16
Loans	17
Work-Study	17
Pace, Inc.	17
V.A., Social Security and D.V.R. Benefits	18
Academic Information	18
Graduation Requirements	18
Grading System	18
Course Numbering System	19
Late Registration, Class Schedule Changes, Withdrawals	20
Academic Standing	20
Academic Review Committee	21
Course Repeat Rule	21
Attendance	22
Course Load	22

Transfer of Earned Credit Between Programs	22
Second Major in Degree or Diploma Program	23
Dismissal	23
Disciplinary Review Committee	23
Changes in Regulations	23
Honors List	24
Commencement Marshalls	24
Graduation Exercises	24
Orientation	24
Guidance and Counseling Service	25
Housing	25
Health Services	25
Accident Insurance	25
Student Employment and Placement	26
Vehicle Regulations	26
Selective Service	26
Food Service	26
Student Center	26
Library	27
Book Store	27
Grade Reports and Transcripts	27
Student Organizations and Activities	27
Student Council	27
Circle K Club	28
Student Representation on Boards and Committees	28
Administrative Management Society	28
Society of Engineering Students	28
Athletics	29
Student Publications	29
PRE-TECHNICAL PROGRAMS	31
ASSOCIATE IN APPLIED SCIENCE PROGRAMS	33
Architectural Technology	35
Business Administration	37
Electronic Data Processing-Business	39
Electronics Engineering Technology	42
Executive Secretarial Science	43
Manufacturing Engineering Technology	46
Mechanical Drafting and Design Engineering Technology	48
Ornamental Horiculture	50
Police Science	52
DIPLOMA PROGRAMS	55

Air Conditioning, Refrigeration and Heating	56
Automotive Body Repair	57
Automotive Mechanics	59
Building Trades Drafting	61
Carpentry	62
Diesel Truck Maintenance and Repair	64
Electrical Installation	65
Graphic Arts (Printing)	67
Machinist	68
Mechanical Drafting	71
Plumbing and Heating	72
Practical Nursing	73
Television Servicing	75
Welding and Metal Fabrication	76
ADULT EDUCATION	79
Evening Programs	80
Occupational Extension Program	80
Supervisory Development Training	81
Vocational Programs	83
New Industry Training	83
Adult High School Diploma Program	84
High School Courses by Quarter	85
Filler Courses	85
Enrichment Program	85
COURSES OF INSTRUCTION	87
PERSONNEL OF THE INSTITUTE	131
Board of Trustees	132
Administrative Officers	133
Office of Instruction	133
Learning Resources Center	133
Office of Adult Education	133
Office of Student Services	134
Office of Public Relations	134
Office of Business Affairs	134
Faculty and Staff	135



GENERAL INFORMATION

ACADEMIC CALENDAR

General
Information
2

1971 - 1972

Date

Event

FALL QUARTER—September 1-November 30

Sept. 1 (Wednesday)	Faculty Orientation
Sept. 2, 3 (Thursday, Friday)	Registration
Sept. 6 (Monday)	Labor Day Holiday
Sept. 7, 8 (Tuesday, Wednesday)	Faculty Work Day and Schedule Adjustment
Sept. 9 (Thursday)	1st Day Classes—Fall Quarter
Sept. 14 (Tuesday)	Last Day Drop-Add
Sept. 20 (Monday)	Last Day Tuition Refund
Nov. 8, 9 (Monday, Tuesday)	Pre-registration for Winter Quarter
Nov. 22, 23, 24 (Monday, Tuesday, Wednesday)	Final Exams
Nov. 25, 26 (Thursday, Friday)	Thanksgiving Holidays
Total Class Days Including Exams—55 Days	

WINTER QUARTER—November 29-March 2

Nov. 29, 30 (Monday, Tuesday)	Grade Averaging and Recording
Dec. 1, 2 (Wednesday, Thursday)	Registration and Schedule Adjustment
Dec. 3 (Friday)	1st Day Classes—Winter Quarter
Dec. 8 (Wednesday)	Last Day Drop-Add
Dec. 13 (Monday)	Last Day Tuition Refund
Dec. 17 (Friday)	Last Day Classes (Christmas)
Dec. 20 through Jan 2	Christmas and New Year's Holidays
Jan 3 (Monday)	Classes Resume
Feb. 14, 15 (Monday, Tuesday)	Pre-registration for Spring Quarter
Feb. 29, Mar. 1, 2 (Tuesday, Wednesday, Thursday)	Final Exams
Total Class Days Including Exams—55 Days	

SPRING QUARTER—March 3-May 25

March 3, 6 (Friday, Monday)	Grade Averaging and Reporting
March 7, 8 (Tuesday, Wednesday)	Registration and Schedule Adjustment
March 9 (Thursday)	1st Day Classes—Spring Quarter
March 14 (Tuesday)	Last Day Drop-Add
March 20 (Monday)	Last Day Tuition Refund
April 3 (Monday)	Easter Holiday
May 8, 9 (Monday, Tuesday)	Pre-registration for Summer Quarter
May 23, 24, 25 (Tuesday, Wednesday, Thursday)	Final Exams
Total Class Days Including Exams—55 Days	

SUMMER QUARTER—May 26-August 18

May 26, 29 (Friday, Monday)	Grade Averaging and Reporting
May 30 (Tuesday)	Registration and Schedule Adjustment
June 3 (Wednesday)	1st Day Classes—Summer Quarter
June 5 (Monday)	Last Day Drop-Add
June 12 (Monday)	Last Day Tuition Refund
July 3, 4 (Monday, Tuesday)	Independence Day Holidays
August 16, 17 (Wednesday, Thursday)	Final Exams
August 18 (Friday)	Grade Averaging and Reporting
August 18 (Friday p.m.)	Graduation
Total Class Days Including Exams—55 Days	

ACADEMIC CALENDAR

1972 - 1973

General
Information
3

<i>Date</i>	<i>Event</i>
-------------	--------------

FALL QUARTER—September 5-November 29

Sept. 5 (Tuesday)	Faculty Orientation
Sept. 6, 7 (Wednesday, Thursday)	Registration
Sept. 8, 11 (Friday, Monday)	Faculty Work Days and Schedule Adjustment
Sept. 12 (Tuesday)	1st Day Classes—Fall Quarter
Sept. 15 (Friday)	Last Day Drop-Add
Sept. 21 (Thursday)	Last Day Tuition Refund
Nov. 6, 7 (Monday, Tuesday)	Pre-registration for Winter Quarter
Nov. 23, 24 (Thursday, Friday)	Thanksgiving Holidays
Nov. 27, 28, 29 (Tuesday, Wednesday, Thursday)	Final Exams
Total Class Days Including Exams—55 Days	

WINTER QUARTER—November 30-February 12

Nov. 30, Dec. 1 (Thursday, Friday)	Grade Averaging and Reporting
Dec. 4, 5 (Monday, Tuesday)	Registration and Schedule Adjustment
Dec. 6 (Wednesday)	1st Day Classes—Winter Quarter
Dec. 8 (Friday)	Last Day Drop-Add
Dec. 15 (Friday)	Last Day Tuition Refund
Dec. 20 (Wednesday)	Last Day Classes (Christmas)
Dec. 21 through Jan. 1	Christmas and New Year's Holidays
Jan. 2 (Tuesday)	Classes Resume
Feb. 12, 13 (Monday, Tuesday)	Pre-registration for Spring Quarter
Feb. 28, Mar. 12 (Wednesday, Thursday, Friday)	Final Exams
Total Class Days Including Exams—55 Days	

SPRING QUARTER—March 5-May 25

Mar. 5, 6 (Monday, Tuesday)	Grade Averaging and Reporting
Mar. 7, 8 (Wednesday, Thursday)	Registration and Schedule Adjustment
Mar. 9 (Friday)	1st Day Classes—Spring Quarter
Mar. 14 (Wednesday)	Last Day Drop-Add
Mar. 19 (Monday)	Last Day Tuition Refund
April 23 (Monday)	Easter Holiday
May 7, 8 (Monday, Tuesday)	Pre-registration for Summer Quarter
May 23, 24, 25 (Wednesday, Thursday, Friday)	Final Exams
Total Class Days Including Exams—55 Days	

SUMMER QUARTER—May 28-August 17

May 28, 29 (Monday, Tuesday)	Grade Averaging and Reporting
May 30 (Wednesday)	Registration and Schedule Adjustment
May 31 (Thursday)	1st Day Classes—Summer Quarter
June 6 (Wednesday)	Last Day Drop-Add
June 11 (Monday)	Last Day Tuition Refund
July 4 (Wednesday)	Independence Day Holiday
Aug. 15, 16 (Wednesday, Thursday)	Final Exams
Aug. 17 (Friday)	Grade Averaging and Reporting
Aug. 17 (Friday p.m.)	Graduation
Total Class Days Including Exams—55 Days	

STATEMENT OF PURPOSE

The purpose of Forsyth Technical Institute is to prepare people for gainful employment and effective community membership. The major objective of the curriculum programs is to develop within students occupational competencies at the entrance levels of employment in trades and technologies. A relationship between liberal and occupational education is maintained by requiring a general education base in all programs. The Institute is also dedicated to the concept of continuing education through the Adult Education Program, which is directed toward self-improvement in cultural, avocational, and vocational pursuits.

HISTORY

The Forsyth Technical Institute can trace its beginning to early adult and high school vocational courses which were available in Winston-Salem. A Chamber of Commerce Study Committee recommended in 1958 that an Industrial Education Center be built in the community. This Center would provide trade and technical training needed by the industries in this area. Money for the first two buildings was provided through a bond issue and construction was started in late 1959. The first adult classes were started on the campus early in October, 1960. The Winston-Salem Forsyth Industrial Education Center was operated as a part of the Winston-Salem City Schools. A number of the vocational courses were consolidated at the Center and made available to selected high school students and adults. In 1963 a third building was added which provided additional classrooms, laboratories, drafting rooms and a library. With this addition new technical programs were added.

In January 1964 the name of the school was changed to the Forsyth Technical Institute. This change occurred as a result of the passage of the Community College Act of 1963, which created a state-wide system of community colleges, technical institutes and industrial education centers. The Institute is operated by the State Board of Education through the State Department of Community Colleges and a local board of trustees.

LOCATION AND FACILITIES

The Institute is located at 2100 Silas Creek Parkway in the southwest section of Winston-Salem. It is easily accessible from North Carolina highways 52 and 150, and from Interstate Highway 40.

Five buildings house modern laboratories, shops and classrooms. The student center, the programmed-learning laboratory, the school bookstore and the library, as well as new laboratories and classrooms, are located in the new 1.3 million dollar Henry F. Snyder multi-purpose building which was completed in September 1970.

HOURS OF INSTRUCTION

Day classes are scheduled between the hours of 8:00 a.m. and 5:00 p.m., Monday through Friday. Evening classes meet between the hours of 6:00 p.m. and 10:00 p.m., Monday through Thursday. Certain classes also meet on Saturday morning.

ACCREDITATION

Forsyth Technical Institute is accredited by the Southern Association of Colleges and Schools, and is approved by the North Carolina State Board of Education.

The Institute is a member in good standing of the American Association of Junior Colleges.

PROGRAMS OF STUDY

ASSOCIATE IN APPLIED SCIENCE DEGREE

Architectural Technology
Business Administration
Electronic Data Processing (Business)
Electronics Engineering Technology
Executive Secretarial Science

Manufacturing Engineering Technology
Mechanical Drafting and Design Engineering Technology
Ornamental Horticulture
Police Science

DIPLOMA PROGRAMS

Air Conditioning, Refrigeration and Heating
Automotive Body Repair
Automotive Mechanics
Building Trades Drafting
Carpentry
Diesel Truck Maintenance and Repair
Electrical Installation
Graphic Arts (Printing)
Machinist Trade
Mechanical Drafting
Plumbing and Heating
Practical Nursing
Television Servicing
Welding and Metal Fabrication

ADULT EDUCATION

Adult Basic Education
Adult High School Program
General Adult Enrichment Program
Manpower Development Training Act Programs
New and Expanding Industry Training Programs
Special Seminars and Workshops
Supervisory Development Training
Vocational-Technical Extension Programs

ADMISSIONS

Admission Requirements

Forsyth Technical Institute, operating under an "open door" admissions policy, does not impose restrictive standards for admission to the Institute. Admission to the Institute does not, however, imply immediate admission to the program desired by the applicant.

Before a prospective student is admitted to a specific curriculum a counseling interview is arranged, and usually aptitude and placement tests are scheduled. This process helps the student to evaluate his potential for success in his chosen field. When an evaluation of test scores and other evidence indicates a lack of readiness to enter a specific program, the student may be assigned to enter the Pre-Technical Program or he may be encouraged to re-examine his educational and occupational goals.

Forsyth Technical Institute will accept credit from other technical institutes and colleges. For specific information refer to "Transfer Students", p. 11 of the catalogue.

Admissions Procedures

Applicants for admission to any degree or diploma program should:

1. Obtain an application form from the Office of Student Services or from his high school counselor.
2. Submit the properly completed form to the Office of Student Services.
3. Arrange to take the General Aptitude Test Battery at the U. S. Employment Security Office and have the scores sent to the Office of Student Services.
4. Request that a transcript of all high school and post high school academic work be sent directly to the Office of Student Services.
5. Report for a personal interview on the date scheduled by the Office of Student Services. At this interview test scores and previous academic records will be evaluated and the applicant will be advised as to eligibility for admission to the desired program.
6. Take required placement tests as scheduled by the Office of Student Services.
7. Submit a properly completed health appraisal form.
8. Register for enrollment on the early registration or regular registration date.

Admission to Associate Degree Programs

High school graduation, or the equivalent, is required of all applicants for degree programs. The high school equivalency certificate or the state adult education diploma is acceptable in lieu of a regular high school diploma.

Applicants for admission to the engineering technologies must present one unit in algebra and one unit in plane geometry. Applicants to the Electronic Data Processing program must present one unit in algebra. There are no other course requirements for admission to degree programs.

Applicants desiring to enter one of the above programs, but who do not meet the mathematics requirement, may arrange to make up the deficiency by attending regular summer classes, the Adult Education Program, or the Learning Laboratory. Deficiencies must be made up prior to admission to a curriculum.

Applicants to the associate degree programs who are not high school graduates may arrange to complete high school in the Adult Education program, or take the high school equivalency examination (G.E.D.T.) at the Learning Laboratory.

Admission to Diploma Programs

Admission to diploma programs is granted if the following conditions are met:

1. The applicant is eighteen or more years of age and is not enrolled in high school, or is a high school graduate.
2. The applicant has the equivalent of a tenth grade education.
3. Evaluation of test scores, academic record, work experience, and the applicant's stated interest indicate that the applicant can benefit from enrollment in the program.
4. The enrollment quota for the curriculum is not filled.
5. The applicant has no physical disability that would prevent performance of the physical tasks demanded by the training program or the occupation.

Applicants to the Practical Nursing program shall also:

1. Submit evidence of state-approved high school graduation, or its equivalent. (For definition of equivalent see p. 11, "Admission to Associate Degree Programs".)
2. Take the Otis Gamma Test administered by a member of the Student Services staff.
3. Present three satisfactory personal references.

The Practical Nursing curriculum is the only program that requires the approval of applicants by an admissions committee. The members of the Admissions Committee come from the instructional staff of the Practical Nursing Department and the Student Services

staff. The purpose of the committee is to evaluate all available data concerning each applicant and to determine if each applicant possesses the special characteristics and personality that nursing seems to require. Factors considered by the committee are:

1. the applicant's maturity and emotional stability
2. the previous educational record
3. test data
4. the applicant's stated interests
5. personal data
6. medical history

The committee is mindful that much of the practical nurse's training involves working with patients in local hospitals, that the role of the practical nurse is constantly being expanded with increasing responsibilities, and that the program must educate and train in anticipation of future demands. If a majority of the committee members consider an applicant to meet minimum requirements, the applicant is admitted on a "first-come, first-served" basis. The program's enrollment quota is usually filled before all applications are received. Late applicants are informed that they may reapply for the following year.

Admission to Adult Education and Extension Programs

Persons to be enrolled must be eighteen years of age or older and the class with which they entered high school must have graduated. Further information concerning registration procedures may be obtained from the office of the Director of Adult Education.

PLACEMENT TESTS

Placement tests are required as indicated below:

1. English: all applicants to degree programs
2. Mathematics: applicants to Architectural Technology, Electronic Data Processing (Business), Electronics Engineering Technology, Manufacturing Engineering Technology, and Mechanical Drafting and Design Engineering Technology.
3. Programmer Aptitude Test: applicants to Electronic Data Processing (Business)
4. Typewriting Proficiency: applicants to Business Administration and Ornamental Horticulture

Students who fail to qualify for English 101F will be required to take a non-credit English course in the summer preceding, or in the fall quarter of their first year. These students will take English 100F (regular first quarter English) in a later quarter.

Students who fail to pass the mathematics placement test will be required to take Pre-Technical Mathematics in the summer prior to enrollment. A course grade of C or better is required for admission to regular technical mathematics.

Students who pass the Typewriting Proficiency test are given credit for Typewriting I.

Scores on the Programmer Aptitude test are used for counseling purposes only.

STUDENT CLASSIFICATION

- Full-time: A student who is enrolled for 12 or more quarter hours of course work.
- Part-time: A student who is enrolled for less than 12 quarter hours of work.
- Special: A student who is enrolled in credit courses but who is not working toward a degree or diploma. A special student must be 18 years of age or a high school graduate. If not a high school graduate he must not be enrolled in a high school, and his high school class must have been graduated prior to the student's enrollment at the Institute. Permission to register as a special student is granted at the discretion of the Office of Student Services and the instructor.
- Audit: A student who is enrolled in regular course work but who is not receiving credit for work undertaken.
- Freshman: A student enrolled in a one-year vocational program; or, a student enrolled in a two-year technical program who has earned less than $\frac{1}{2}$ the credit hours required for graduation.
- Sophomore: A student enrolled in a two-year technical program who has earned $\frac{1}{2}$ or more of the credit hours required for graduation.

TRANSFER STUDENTS

*General
Information*

11

Applicants who have attended other institutions of higher learning may transfer credit earned in comparable courses or programs of study if the student is transferring from a regionally accredited institution, or from another institution in the North Carolina Community College System. No grade lower than C may be transferred. A student requesting credit for work completed in any other type of training program or institution may be given advanced standing on the basis of a proficiency examination. All transcripts for transfer work should be submitted at least one week prior to enrollment.

PRE-TECHNICAL PROGRAM

For those applicants to degree programs who, on the basis of test results and past performance, do not qualify for immediate admission to their chosen programs of study, non-credit developmental course work is available and is required as a condition of admission. The developmental courses are also open to applicants who wish to take them for personal benefit. See page 32 for specific information.

REGISTRATION

The Institute operates on the quarter system. Each quarter is eleven weeks in length and students who are pursuing diploma or degree programs must register at the beginning of each quarter. All students are expected to register during the time set aside for that purpose. Registration dates are listed in the calendar for the academic year.

Tuition charges must be paid at the time of registration.

LATE REGISTRATION

All registration for a class is closed after the fourth class meeting. A student may register late through the fourth class meeting date providing:

1. that the class is not cancelled or closed.

2. that the student has the consent of his advisor and has met admissions and prerequisite requirements.
3. that the student pay a \$5.00 late registration fee in full at the time of late registration.
4. A student who, at the request of the institution, registers at any time other than the specified time shall not be required to pay a late registration fee.

LEARNING LABORATORY

A student enrolling in the Learning Laboratory sets his own attendance schedule and learns at his own rate. Such a departure from the traditional classroom approach is made possible by programmed instruction, whereby what is to be learned is presented in small steps arranged in logical order. Constant reinforcement, continuous student involvement and immediate feedback produce a low rate of error and a high rate of achievement.

More than a hundred programs and courses are offered in the Institute's two public Learning Laboratories: the campus laboratory, on the ground floor of the Snyder Building, and the downtown laboratory at 601 North Main Street. Both laboratories are open day and evening hours during the week.

Enrollment is free and the laboratories are open to anyone at least eighteen years old provided that the class with which he entered high school has been graduated. A student may enroll at any time. Students use the laboratories to prepare for the high school equivalency tests or college entrance examinations, to earn credit in the Adult High School Program, to take courses for college admission, to supplement or reinforce instruction offered in one of the Institute's curriculums, and to take self-enrichment courses.

Although most instructional materials are in printed form, several programs make use of audio tapes, filmstrips and other non-book materials and methods.

A sound module is available to students studying foreign language or any other course calling for vocal response.

HIGH SCHOOL EQUIVALENCY

*General
Information*
13

Adult residents of North Carolina who have not completed high school may earn a Certificate of High School Equivalency by passing a battery of five tests. These tests are known alternately as the high-school equivalency tests and the GED (General Educational Development) tests.

A Certificate of High School Equivalency is recognized across the nation by most employers and educational institutions.

Persons interested in taking the GED tests should apply at the office of their local city or county superintendent of schools. Persons who live in Winston-Salem or Forsyth County may apply at one of three places in Winston-Salem: the Central School Offices on Granville Drive, the Learning Laboratory on the campus of Forsyth Technical Institute, or the Learning Laboratory at 601 North Main Street.

To be eligible to take the tests, an applicant must be at least 19 years old (18 if he has been out of a regular high school program for at least six months) and must currently reside in North Carolina.

Forsyth Technical Institute is one of fifty-seven official GEDT centers in North Carolina and is the only one in Forsyth County. The center administers the tests by appointment. The Institute may be contacted for further information.

FINANCIAL INFORMATION

Tuition

Since the Institute receives funds from local, state and federal sources, tuition charges are very low. These charges are set by the State Board of Education and are subject to change without notice.

Tuition (Fees):

Resident (12 quarter hours or more) \$32.00 per quarter

Non-Resident (12 quarter hours or
more) \$80.00 per quarter

Resident (less than 12 quarter hours) \$ 2.50 per quarter hour

Non-Resident (less than 12 quarter
hours) \$ 6.25 per quarter hour

Tuition charges for non-credit classes in the Extension Program depend upon the nature of the class. No tuition is charged for basic adult education and high school completion classes. Instructional materials fees are set to meet instructional needs in certain types of classes.

Summer School and Audit Fees are charged at the same rate as those charged during the regular term.

Student Activity Fee

It is the policy of this institution that a student activity fee of \$3.00 per school quarter be charged.

The use of such a student fee is at the discretion of the Board of Trustees upon recommendation of the President. In general, said fees are used for student centered activities and for the general benefit of the student or the student body.

Practical Nurse Licensing Examination Fee

A fee of \$20.00 is charged by the North Carolina Board of Nursing to students who, having satisfactorily completed the Practical Nursing program, wish to register for the North Carolina State Licensing Examination.

Residence Status

A definition of legal residency as established by the Office of the Attorney General is as follows:

1. A person twenty-one years of age or older is deemed eligible for the lower tuition rate if he has maintained his legal residence in North Carolina for at least six months next preceding the date of his first enrollment in an institution of higher learning in this state.
2. The legal residence of a person under twenty-one years of age at the time of his first enrollment in an institution of higher education in this state is that of his parents, surviving parent or legal guardian. In cases where parents are divorced or legally separated, the legal residence of the father will control unless the custody of the minor has been awarded to the mother, or to a legal guardian other than the parent. No claim of residence in North Carolina based upon residence of a guardian in North Carolina will be considered if either parent is still living unless the action

of the court appointing the guardian antedates the student's first enrollment in a North Carolina institution of higher education by at least twelve months.

3. The residence status of any student is determined as of the time of his first enrollment in an institution of higher education and may not thereafter be changed except: (a) in the case of a non-resident minor student at the time of his first enrollment whose parents have subsequently established legal residence in North Carolina; and (b) in case of a resident who abandons his legal residence in North Carolina. In either case, the appropriate tuition rate will become effective at the beginning of the term or semester next following the date of change of residence status.

4. The legal residence of a wife follows that of her husband, except that a woman student currently enrolled in the institution as a resident may continue as a resident even though she marries a non-resident.

5. Military personnel attached to military posts or reservations in North Carolina are not considered eligible for the lower tuition rate unless they have maintained a legal residence in the state for at least six months next preceding the date of first enrollment in an institution of higher learning in this state.

6. Aliens lawfully admitted to the United States for permanent residence who have established a legal residence in North Carolina according to above paragraphs 1, 2 or 4 are eligible for lower tuition rate.

7. Ownership of property in, or payment of taxes to the state of North Carolina apart from legal residence will not qualify one for the lower tuition rate.

It is the responsibility of a student who is in doubt as to his residence status to obtain a ruling from the business manager of the Institute.

Books and Supplies

Textbooks and supplies are not furnished by the Institute, but are the responsibility of the student and may be purchased at the Institute bookstore. The cost of books and supplies varies from program to program, and from quarter to quarter, but usually ranges from \$35.00 to \$45.00 per quarter.

The tuition fee paid by the practical nursing students covers the use of two gray nurse's aprons, cap, and name bar. The student

purchases two short-sleeved white skimmers cut to nursing department specifications. The cost of each skimmer is approximately \$10.00.

Tuition Refunds

Tuition refunds are not made unless a student is compelled to withdraw for unavoidable reasons. In such cases two-thirds of the tuition paid will be refunded provided that the student withdraw within ten calendar days after the first day of classes, as published in the academic calendar. If a student withdraws from a course but remains enrolled in the Institute, he will receive no refund for the course dropped. Refunds of five dollars or less will not be made except for classes cancelled by the Institute.

The following refund policy will be applicable to persons enrolled under provisions of Title 38, U. S. Code, as amended.

The institution has and maintains the following policy for the refund of the unused portion of tuition, fees, and other charges in the event the person fails to enter the course or withdraws, or is discontinued therefrom at any time prior to completion.

The amount charged to the persons for tuition, fees, and other charges for a portion of the course will not exceed the approximate pro rata portion of the tuition, fees and other charges that the length of the completed portion of the course bears to its total length.

It is the responsibility of the student to request a refund through the Office of the Registrar.

Breakage Fees

No laboratory, breakage or property damage fees will be charged to students. However, in case of breakage or damage due to gross negligence or maliciousness, a student will be expected to remunerate the institution. Academic credit may be withheld until proper payment is made.

Scholarships

The Winston-Salem Kiwanis Club and the Twin City Kiwanis Club award non-renewable scholarships to seniors graduating from Forsyth County schools each year.

Limited scholarship funds are available in the Diesel, Graphic Arts-Printing and Practical Nursing programs.

The Society of Engineering Students awards one scholarship annually to an outstanding second quarter student enrolled in either Manufacturing Engineering or Mechanical Drafting and Design Technology.

In 1970 the staff of the Office of Student Services contributed funds for beginning a scholarship, to be known as the "Student Services Scholarship," in honor of Mr. Bob C. Thompson, a former Director of Student Services at the Institute. Contributions to this fund are tax deductible.

Loans

The Office of Student Services maintains a file on sources of financial aid for students. Loans at a low rate of interest are available through the following agencies:

James E. and Mary Z. Bryan Foundation
North Carolina Bankers' Student Loan Plan
North Carolina Funds for Vocational and Technical Students
Winston-Salem Foundation*

The two first named plans are administered through The College Foundation Incorporated.

Students desiring to participate in one of these plans should make application at the Office of Student Services far enough in advance to allow four to six weeks for processing of application.

*Available to Forsyth County Residents only.

Work Study

On-campus employment is available to qualified students when funds permit. Application should be made at the Office of Student Services.

Pace Incorporated

Students who have been approved for admission to the Institute are eligible to apply for summer work through Pace Inc. Applications should be made through the Office of Student Services.

V.A., Social Security and D.V.R. Benefits

The Institute is approved for the training of persons eligible for benefits under the Veterans Administration, Social Security Commission and Division of Vocational Rehabilitation.

Additional information concerning these benefits is available at the Student Services Office or from offices of the above named agencies.

ACADEMIC INFORMATION

Graduation Requirements

Graduation Requirements for the degree or diploma will vary according to curriculum. The student should refer to the brochure which applies to his program so that he may be certain of the course requirements for graduation. All students must earn a cumulative grade point average of 2.0, and must have received a passing grade in all required subjects, in order to be eligible for graduation.

Grade Point Average (G.P.A.) is obtained by dividing the total quality points earned by the total number of credit hours work attempted.

Grading System

The following grading system is used by Forsyth Technical Institute.

No. Grade	Letter Equivalent	Description	Quality Points Per Quarter Hour
94-100	A	Excellent	4
86-93	B	Good	3
78-85	C	Fair	2
70-77	D	Passing	1
Below 70	F	Failing	0
Withdrawn Passing	W		
Withdrawn Failing	W-F		
Incomplete	Inc.		
Audit	Aud.		

The letter equivalent system is used for recording and reporting grades.

W—Withdrawn-Passing

Withdrawn-Passing is the grade given to a student who voluntarily withdraws from a course after the tenth class day of a quarter with a passing grade, and has notified the instructor and the registrar in person or in writing of his decision.

W-F—Withdrawn Failing

Withdrawn Failing is the grade given to a student who at any time after the fourth class day withdraws from a course without first notifying the instructor and the registrar, in person or in writing, of his decision. Students who withdraw after the tenth class day and are failing at the time of withdrawal receive a grade of W-F.

Inc.—Incomplete

The grade of Incomplete is given only if a student has a valid reason for failure to complete the work on schedule. Illness, absence on company business, or other circumstances beyond the student's control are considered valid reasons for non-completion of work. The student must have advised his instructor of the circumstances and have been granted an incomplete grade. The instructor must have specified what work must be done in order to remove the incomplete and a date by which this must be accomplished. The instructor cannot authorize a date later than one quarter from the quarter in which the incomplete was given. If the work is not completed, the grade automatically becomes an F at the end of that quarter.

Aud.—Audit

Students taking courses as auditors are not required to take examinations or hand in written work, but may do so if they wish. No grade or credit toward a degree or diploma is given. Audit may not be changed to credit, or credit to audit after the last day of drop-add.

Course Numbering System

Courses are numbered in accordance with the system approved by the North Carolina Department of Community Colleges.

1. Each course is designated by a three-letter prefix designating the general subject area.

2. A number indicating a specific course within an area follows the letter prefix according to the following rules:
- | | |
|--|-------------|
| a. Pre Technical courses | 0 - 99 |
| b. Technical courses | 100 - 299 |
| c. Vocational courses | 1000 - 1099 |
| d. Adults education courses beyond high school | 2000 - 3099 |

Late Registration, Class Schedule Changes, and Withdrawals

Late registration and changes in class schedules will not be permitted after the fourth class day of each quarter. All class schedule changes must be approved by the student's advisor, and notification of such changes submitted to the Office of the Registrar.

If a student drops a course after the fourth day but within the first ten days the drop will be recorded as a W provided that the student has cleared with the registrar and the instructor.

If the student withdraws after the tenth day, the grade will be recorded as a W provided that the student is passing, and provided that he has cleared with the registrar and the instructor.

If a student withdraws from a course after the fourth day without notifying the registrar and the instructor, the grade will be recorded as a W-F.

Departure from the above will be allowed only in exceptional cases, and only when the reasons are deemed valid by the student's advisor.

Academic Standing

To be in good academic standing a beginning student must have earned a grade point average of 2.0 by the end of the first quarter, and a cumulative G.P.A. of 2.0 must be maintained thereafter.

A student failing to attain the required grade point average in any quarter will be placed on academic probation for the following quarter.

A student on probation whose work has improved to the point where he meets the required cumulative grade point average will automatically be removed from probation.

A student who has been placed on probation and who does not earn the required grade point average in the next quarter will be

required to register for a reduced course load, or he may be required to withdraw from the program and be directed to a more suitable curriculum.

The Academic Review Committee shall make decisions on individual cases. Each student enrolled in the Institute is expected at all times to be aware of his academic status and to be responsible for knowing whether he has failed to meet the requirements as outlined above for continuing in school. Instructors, faculty advisors, and counselors in the Office of Student Services are available for conferences, but it is the responsibility of the student to seek extra help if it is needed.

Academic Review Committee

The Academic Review Committee shall meet at least once each quarter and review all records of students having an average less than 2.0, or the records of any other student upon request from any faculty member or administrative staff member. It shall be vested with the responsibility of recommending the probationary terms under which a student in academic difficulty be permitted to re-register. These terms may include the requirements to repeat or not to repeat specific courses, to repeat an entire quarter's work, to carry a reduced load, to enter a more suitable curriculum or other appropriate recommendations.

A student who has earned a cumulative grade point average of 3.5 is eligible to be graduated with high honors.

A student who has earned a cumulative grade point average of 3.0 is eligible to be graduated with honors.

A student who has earned a cumulative grade point average of 2.0 is eligible for graduation.

Course Repeat Rule

The last grade earned on a repeated course, whether F or higher, will be the grade computed for grade point average.

In the event a student's quality point ratio falls below that required for satisfactory standing, the Academic Review Committee shall review the student's record and make appropriate recommendations to the Dean of Instruction. The Dean of Instruction shall present such recommendations to the President.

Attendance

Students are expected to attend all class, laboratory and shop sessions. No grade will be issued for a course if, for whatever reason, a student has been absent for 25% of the total possible class sessions (hours) per course per quarter.

A student must satisfy his instructor that he should be permitted to remain in a course after he incurs any absence in excess of the following:

- A. Three (3) regular one hour class sessions.
- B. Two (2) shop or laboratory sessions which meet for two or more hours.
- C. Two (2) regular one hour class sessions, and one (1) shop or laboratory session which meets for two or more hours.

When a student is absent from a class and a laboratory or shop session which meet consecutively, each session missed will be counted as an absence making a total of two absences for that course.

Students have full responsibility for accounting to their instructors for absences. The instructor has final authority for deciding whether work missed can be made up.

Students are expected to report for class on time. Habitual tardiness may, at the discretion of the instructor, be considered in computing class attendance.

Course Load

The suggested contact hours per quarter shown for each curriculum are minimal. It is the policy of the Institute to permit students to enroll in additional subjects and laboratory work beyond those shown in the catalogue.

Transfer of Earned Credit Between Programs

Credits earned in any degree program may be credited toward a degree or diploma program upon evaluation by the Office of Student Services. Credits earned in a diploma program are not acceptable for transfer to an associate degree program but may be credited toward a second diploma major.

Second Major in a Degree or Diploma Program

A student may receive a second major in his program by meeting the additional requirements of the new program. Credits already earned will be recognized if they meet the criteria established in the "Transfer of Earned Credits Between Programs" as stated above.

Dismissal

A student may be dismissed from the Institute for conduct or personal habits which are not in the best interest of the student or the institution. Any instructor may request a student to leave the instructor's teaching station when, in the opinion of the instructor, the student's conduct or personal habits disrupt normal classroom procedure. The instructor immediately notifies the Dean of Instruction in writing of his action and the reasons therefor.

The Institute is required to abide by state law. Violators are subject to prosecution by duly authorized law enforcement officers.

Disciplinary Review Committee

The Disciplinary Review Committee composed of representatives from the faculty and student body, under the chairmanship of the Dean of Instruction, reviews all cases involving disciplinary action and makes appropriate recommendation to the President.

The committee may also be convened at the request of any student desiring a review of his disciplinary situation, or any faculty or administrative staff member who wishes consultation on individual disciplinary cases.

The decision of the President on disciplinary action is final, with the right of appeal always available to the party involved. Any party wishing to appeal the decision of the President should request, in writing, a formal hearing before the Board of Trustees of the Institute.

Changes in Regulations

Forsyth Technical Institute reserves the right, without prior notice, to make changes in regulations, courses, fees, and other matters of policy and procedure when and as deemed necessary.

Graduation Requirements

A student wishing to receive a degree or a diploma from this institution must fulfill all course requirements as outlined in the General Catalogue, and must have earned an overall C (2.0) grade point average on all required work undertaken at the Institute.

Course requirements vary according to program. The student should refer to the catalogue for course requirements for graduation from his program of study, and should be aware at all times of his progress toward graduation.

It is the further responsibility of the student to complete an official *Intent to Graduate* form at least six weeks prior to his last registration. These forms may be obtained from the faculty advisor who will assist the student in completing the form, and will submit the form to the Office of the Registrar.

Honors List

Soon after the end of each quarter, in order to honor students who who have earned outstanding scholastic records, the Institute publishes a Honors List. In order to be named to the Honors List, a student must take a minimum of 12 quarter hours of work and earn at least a B (3.0) average.

Commencement Marshalls

The rising sophomores who have maintained the highest scholastic averages during their freshman year are honored by being chosen commencement marshalls. The two marshalls having the highest academic averages are named chief marshalls.

Graduation Exercises

Graduation exercises are held at the end of the Summer quarter on the date published in the academic calendar. Degrees and diplomas are awarded at this time. Students are expected to notify the registrar's office as to their intention to participate in the exercises.

Orientation

All new full-time students are required to participate in an orientation program conducted by members of the faculty, staff and

student council. Part-time students are urged to participate also. The purpose of orientation is to acquaint the student with the administrative personnel, faculty, and student leaders. The regulations, policies and privileges of the Institute as set forth in the catalogue are discussed and interpreted.

Guidance and Counseling Service

The Office of Student Services maintains a staff of trained counselors whose services are available to students needing help with educational, vocational or personal problems.

Each full-time student at the Institute is assigned a faculty advisor who is available for help with problems related to the student's course work. The advisor serves as a direct link between the student and the administrative staff of the Institute.

Housing

Since the Institute has no dormitory facilities, students who wish to live away from home must make their own housing arrangements. The Institute takes no responsibility for locating or supervising student housing; however, suggestions as to location of off-campus housing may be obtained in the Office of Student Services.

Health Services

Limited health services are provided through the Office of Student Services; however, injuries requiring more than minor first aid treatment will be treated in the emergency room of a nearby hospital.

For major illness or injury, ambulance transportation is available to either of the two hospitals both of which are located within two miles of the institute.

Accident Insurance

Accident insurance covering the hours a student is in school, on field trips, and in traveling to and from school is provided to full-time students from student activity fee funds. Insurance claim forms may be obtained from the Institute Business Office.

Student Employment and Placement

The Institute, in cooperation with the United States Employment Security Commission, provides the services of a job placement officer. The employment placement office is located in the Student Services suite, and the services of the placement officer are available to both part-time and full-time students.

Vehicle Regulations

Parking of student vehicles on campus is allowed by permit only. Vehicle parking permits may be obtained as the student completes registration on registration day, when a decal will be assigned each vehicle. The charge for vehicle registration will be \$2.00 per vehicle for any part of the year, September 1 through August 31. Complete parking rules and regulations will be issued along with the decal at the time a vehicle is registered.

Those who do not observe parking rules and regulations may expect a violation penalty of \$2.00 per violation.

Selective Service

All male students subject to the conditions of the Selective Service Act may obtain request for deferment forms at the time of registration, or in the Office of the Registrar.

Food Service

Canteen service is available in the student center which is located on the ground level of the Snyder Building. A variety of hot and cold food and drink is available from vending machines. Hot lunches are also provided through a catering service from 11:00 a.m. to 1:00 p.m. each day.

Student Center

The large, attractive Student Center is located on the ground level of the Snyder Building. Students are encouraged to use the Center as a place in which to meet, chat, eat and relax. The Center is open from 8 a.m. until 10 p.m., Monday through Thursday, and from 8 a.m. until 5 p.m. on Friday.

Library

The library is located in the Snyder Building and houses a 15,000 volume collection of reference and circulatory books which are available to all citizens of the area. Additional holdings are being acquired at the rate of approximately 2,500 volumes per year. Also housed in the library are such audio-visual media as slides, films, filmstrips, tapes, records and microfilm. These media are constantly being added to the library's collection and lend greater variety to available sources of information.

The library is open Monday through Thursday, from 7:30 a.m. until 8:30 p.m. and on Friday from 7:30 a.m. until 4:30 p.m.

Book Store

A school bookstore is operated by the Institute as a service to students, faculty and staff. Textbooks, school supplies and course-related materials, as well as other items of special interest to students, are offered for sale. The bookstore is adjacent to the Student Center in the Snyder Building and is open from Monday through Friday from 8:30 a.m. until 3:00 p.m. and on Monday and Thursday evenings from 5:30 p.m. until 8:00 p.m.

Grade Reports and Transcripts

Shortly after the end of each quarter student grade reports are available to students in the office of the Registrar.

Transcripts of the student's record will be sent to other schools, prospective employers or to the student himself provided that an official request is made to the Registrar's office by the student.

Grade reports and transcripts are withheld by the Registrar until all student obligations to the Institute have been met.

STUDENT ORGANIZATIONS AND ACTIVITIES

Student Council

The Student Council serves to promote interest in student affairs both on and off campus. The Council is composed of representatives elected from each section of each curriculum by the students of that curriculum. Student Council officers are elected from among the

official curriculum representatives by vote of the student body. Faculty members are appointed by the administration to serve in an advisory capacity to the Student Council.

Circle K

The Circle K is a national collegiate service club sponsored by Kiwanis International. The club is open to male students who are invited to membership at intervals during the year.

Student Representation on Boards and Committees

An elected student representative serves as a non-voting member of the Board of Trustees of the Institute. Student representatives also serve on the Academic Review Committee, the Disciplinary Review Committee, and in some cases on the Curriculum Advisory Committees.

Administrative Management Society

The A. M. S., as it is usually called, is a national business club open to students in the field of Business Administration. To be eligible for invitation to membership a student must have earned a grade point average of 3.0 by end of the first quarter. Second year students must have maintained an average of 2.5. Membership is by invitation.

Society of Engineering Students

The Society of Engineering Students is a service and social club open to students from the Manufacturing Engineering, and Drafting and Design Technology programs. This club, in its first year of existence, has raised and set aside funds for endowing a scholarship open to second quarter students in these two fields of technology.

Other Organizations

Students are encouraged to affiliate with student chapters of the various professional and technical organizations and societies.

Athletics

The Institute does not offer a formal, organized athletic program. The students themselves have organized basketball, softball and bowling teams and compete in Winston-Salem city leagues in these sports. Volunteers from the faculty serve as sponsors and coaches of the teams.

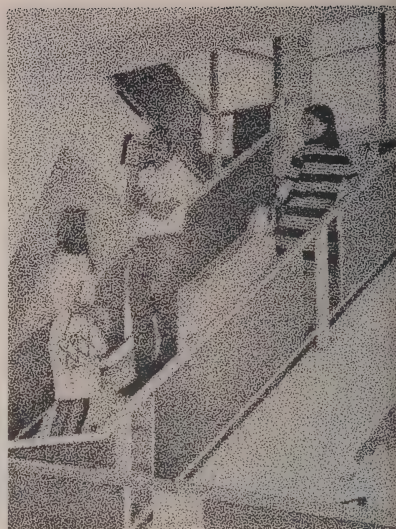
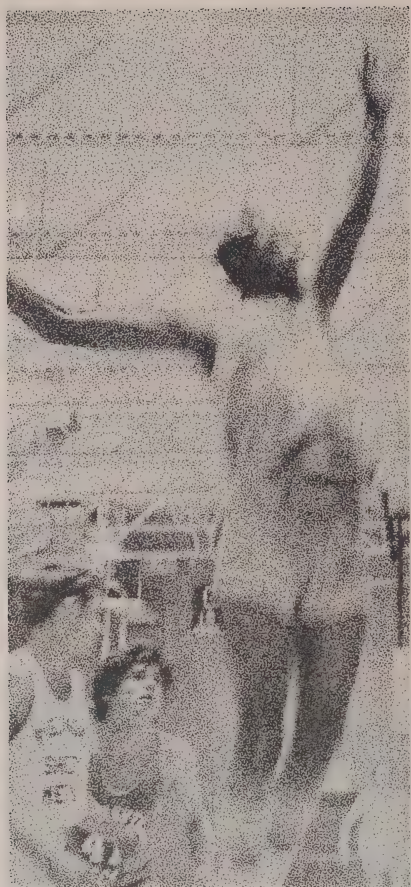
Student Publications

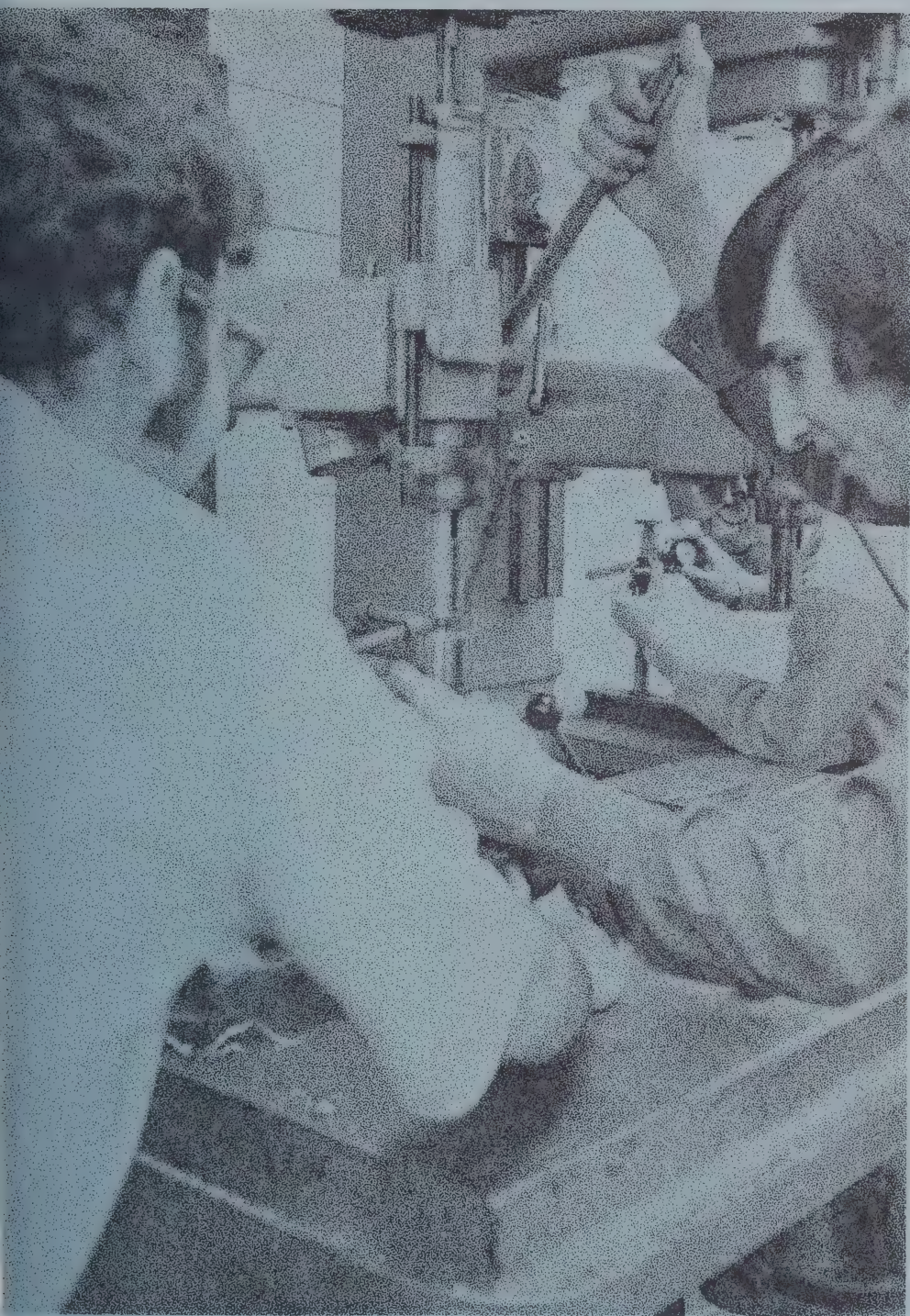
Students are encouraged to participate actively in the preparation of the *F.T.I. Reporter* and the *Reflector*, the two major student publications.

The *F.T.I. Reporter* is the student newspaper written, edited and managed by the student staff with the assistance of a faculty advisor. The newspaper is published quarterly.

The *Reflector*, the yearbook of the Institute, is written, edited and managed by the student yearbook staff with the assistance of a faculty advisor.







PRE-TECHNICAL PROGRAM

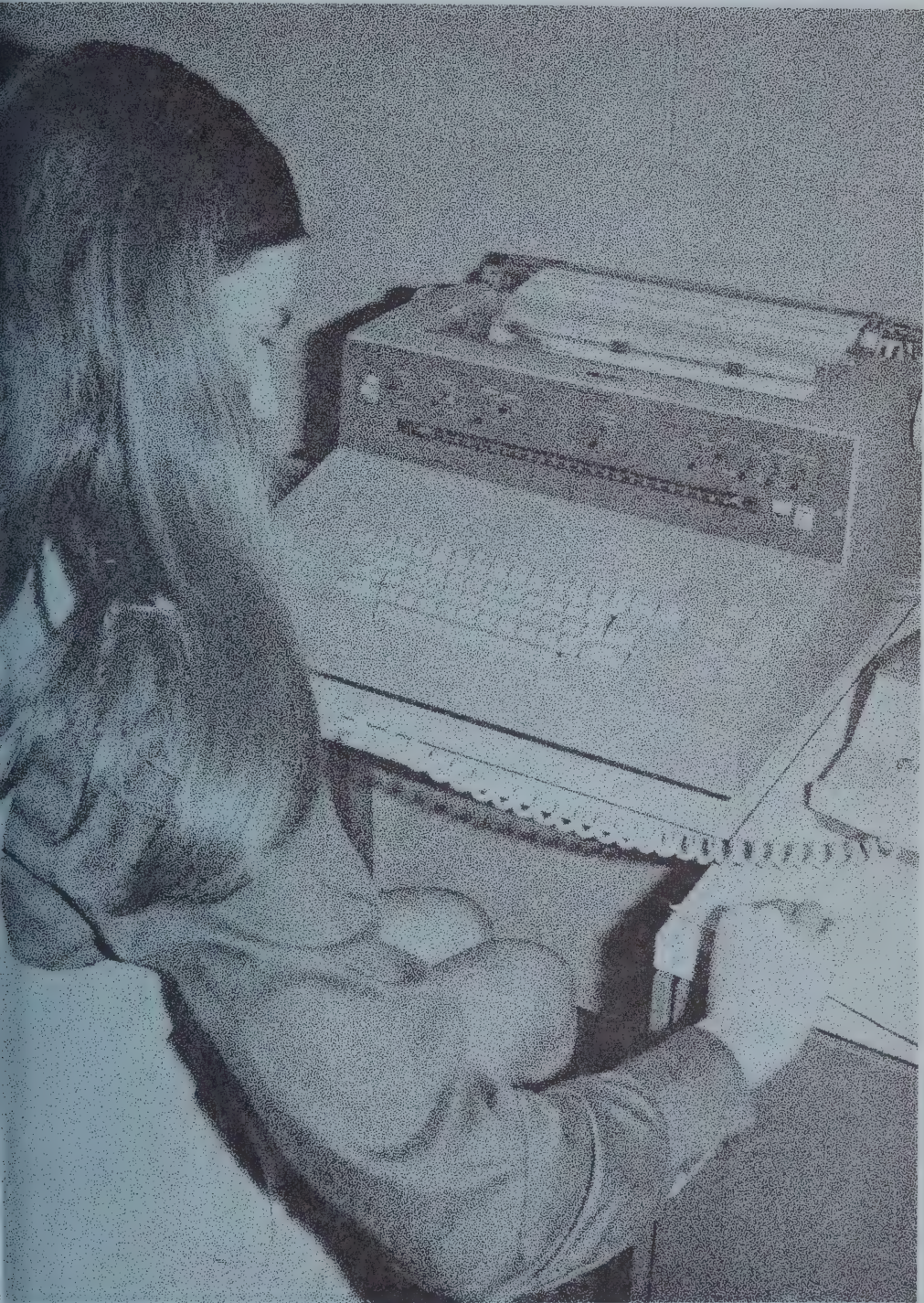
PRE-TECHNICAL PROGRAM

*T*his program is a full-time course of study which offers preparation, remediation, and guidance for students who, for a variety of reasons, do not meet the specific entrance requirements for the regular curriculum program of their choice. Students who do meet the minimum entrance requirements but whose previous academic records indicate that they will have difficulty in successfully completing their programs are also advised to enter the Pre-Technical Program.

The student's academic program will be individually designed to meet his specific preparatory and remedial needs. The courses will be selected from the Pre-Technical offerings and from technical and/or vocational credit course offerings.

PRE-TECHNICAL COURSE OFFERINGS

<i>Course Title</i>	<i>Hrs. Per Week</i>	<i>Credit</i>
BUS 002 Introduction to Business Occupations	2	0
BUS 010 Pre-Technical Accounting	5	0
ENG 010 Individualized English Grammar	3	0
ENG 011 Pre-Technical Communication Skills I	5	0
ENG 012 Pre-Technical Communication Skills II	5	0
ENG 020 Basic Reading Skills and Vocabulary	3	0
MAT 001 Structure of Arithmetic	5	0
MAT 002 Pre-Business Mathematics	5	0
MAT 003 Algebra	5	0
MAT 004 Pre-Technical Mathematics	5	0
MAT 005 Geometry	5	0
MEC 001 Introduction to Engineering Technology	2	0
PHY 001 Pre-Technical Physics	5	0
SSC 001 Sociology I	4	0
SSC 002 Sociology II	4	0
SSC 010 Study Skills	2	0



*ASSOCIATE IN APPLIED
SCIENCE DEGREE PROGRAMS*



ARCHITECTURAL TECHNOLOGY—T-41

*Pre-Tech.
Architectural
Technology*

35

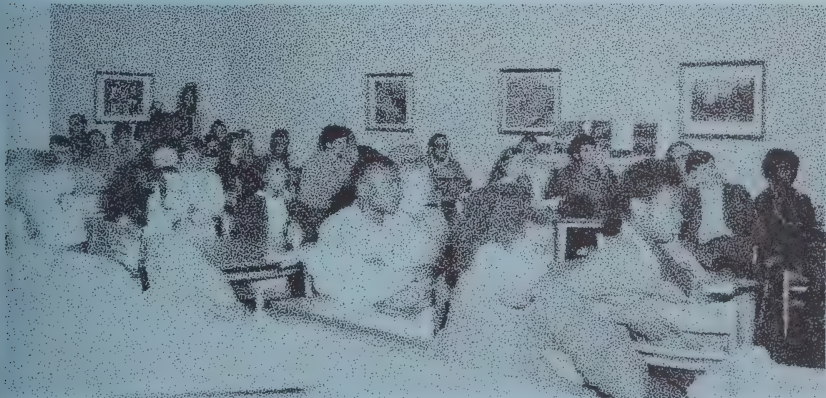
This curriculum was designed in cooperation with the North Carolina Chapter of the American Institute of Architects. Its explicit purpose is to train architectural technicians for the architect's office and the building industry.

This program is designed to provide the individual with knowledge and skills that will lead to employment in the field of architectural drafting and afford opportunity for rapid advancement in technical knowledge and proficiency. Technical courses are included which will enable the graduate to advance into related areas of work as job experience is obtained. This program represents the educational requirements as established by the Architectural Technician Advisory Committee.

DESCRIPTION OF PROGRAM

Architectural technicians are concerned with turning the architect's design sketches into complete and accurate working plans and detail drawings for construction purposes. He may prepare floor plans, elevation drawings, construction details, mechanical equipment layouts; door, window and room schedules, and site plans. The drafting technician will be involved in work requiring a knowledge of building codes, specifications and contract documents.

After gaining experience the technician may be involved in estimating, field inspection or in collecting site data and other information pertinent to construction.



CURRICULUM BY QUARTERS

Course Title			Hrs. Per Week		P	QH
			C	L		
FIRST QUARTER						
MAT	101	Technical Mathematics I	5	0	0	5
ENG	100F	Oral Communications	3	0	0	3
DFT	106	Architectural Drafting I	2	0	6	4
DFT	181F	History of Architecture and Construction	5	0	0	5
			—	—	—	—
			15	0	6	17
SECOND QUARTER						
MAT	102	Technical Mathematics II	5	0	0	5
ENG	101	Introductory Written Communications	3	0	0	3
CIV	105	Architectural Materials and Methods	3	2	0	4
DFT	107	Architectural Drafting II	2	0	6	4
			—	—	—	—
			13	2	6	16
THIRD QUARTER						
MAT	103	Technical Mathematics III	5	0	0	5
AHR	106	Architectural Mechanical Equipment	3	0	3	4
PHY	102	Physics: Properties of Matter	3	2	0	4
DFT	108	Architectural Drafting III	0	0	9	3
			—	—	—	—
			11	2	12	16
FOURTH QUARTER						
MECH	104F	Applied Mechanics	5	0	0	5
DFT	220	Architectural Drafting IV	2	0	9	5
PHY	103	Physics: Electricity	3	2	0	4
ECO	102	Economics	3	0	0	3
			—	—	—	—
			13	2	9	17
FIFTH QUARTER						
MECH	205	Strength of Materials	3	2	0	4
DFT	221	Architectural Drafting V	2	0	9	5
ENG	102	Composition	3	0	0	3
DFT	233	Office Practice Seminar	2	0	0	2
			—	—	—	—
			12	0	9	15
C—Class						
L—Lab						
P—Practicum						
QH—Quarter Hours Credit						

Course Title			Hrs. Per Week				Pre-Tech. Business Administration 37
			C	L	P	QH	
SIXTH QUARTER							
CIV	101	Surveying	2	0	6	4	
DFT	235	Codes, Specifications, and Contract Documents	3	0	3	4	
PSY	206	Applied Psychology	3	0	0	3	
ENG	103	Report Writing	3	0	0	3	
		Elective	3	0	0	3	
			—	—	—	—	
			14	0	9	17	
SEVENTH QUARTER							
PHY	104	Physics: Light and Sound	3	2	0	4	
ISC	201	Industrial Organization and Management	3	0	0	3	
DFT	222	Architectural Drafting VI	2	0	9	5	
DFT	236	Construction Estimating and Field Inspecting	3	0	3	4	
		Elective	3	0	0	3	
			—	—	—	—	
			14	2	12	19	
C—Class							
L—Lab							
P—Practicum							
QH—Quarter Hours Credit							

BUSINESS ADMINISTRATION—T-18

Since shortly after World War II it has been recognized that the distribution of goods is the largest single problem in business. Techniques for mass production of goods have been perfected, and knowledge of better ways to get these products to the consumer is needed. The student of Business Administration is preparing for employment in the field of distribution which, directly or indirectly, produces over one-half of all jobs today.

Jobs available in this locality which graduates would be qualified to fill are in the areas of retailing, wholesaling, industrial marketing, finance, and service industries. Services performed by graduates in Business Administration include sales, advertising, merchandising, buying, credit, and personnel. The highest paid non-managerial jobs and the greatest number of job offerings at the managerial level are found in the field of Business Administration. Close to 4½ million salaried workers are employed to manage the business activities of the nation's enterprises, and employment in this field of work is expected to expand considerably through the mid 1970's.

DESCRIPTION OF PROGRAM

The Business Administration program is designed to (1) develop the student's knowledge of the fundamental principles of marketing and distribution in today's economy and to provide him with an understanding of the principles of organization and management in business operations; (2) develop skills in selling, advertising, and analysis; (3) familiarize the student with growth problems confronting business today and the positions trained people can take in the solution of these problems.

CURRICULUM BY QUARTERS

Course Title			Hrs. Per Week			
			C	L	P	QH
FIRST QUARTER						
ENG	100F	Oral Communications	3	0	0	3
BUS	102	Typewriting I	2	0	3	3
MAT	110	Business Mathematics	5	0	0	5
BUS	101	Introduction to Business	5	0	0	5
			—	—	—	—
			15	0	3	16
SECOND QUARTER						
ENG	101	Introductory Written Communications	3	0	0	3
BUS	120	Accounting I	4	0	3	5
ECO	102	Economics I	3	0	0	3
BUS	110	Office Machines I	2	0	3	3
			—	—	—	—
			12	0	6	14
THIRD QUARTER						
ENG	102	Composition	3	0	0	3
BUS	115	Business Law I	3	0	0	3
BUS	121	Accounting II	4	0	3	5
ECO	104	Economics II	3	0	0	3
			—	—	—	—
			13	0	3	14
FOURTH QUARTER						
BUS	116	Business Law II	3	0	0	3
EDP	101F	Principles of Business Data Processing	3	0	3	4
BUS	229	Taxes	2	0	3	3
BUS	239	Marketing	5	0	0	5
			—	—	—	—
			13	0	6	15
C—Class						
L—Lab						
P—Practicum						
QH—Quarter Hours Credit						

Course Title			Hrs. Per Week			Pre-Tech. Electronic Data Processing 39	
			C	L	P		QH
FIFTH QUARTER							
ENG	103	Report Writing	3	0	0		3
BUS	123	Business Finance I	3	0	0	3	
BUS	232	Sales Development	3	0	0	3	
BUS	271	Office Management	3	0	0	3	
PSY	206	Applied Psychology	3	0	0	3	
			—	—	—	—	
			15	0	0	15	
SIXTH QUARTER							
ENG	206	Business Communications	3	0	0	3	
BUS	124	Business Finance II	3	0	0	3	
BUS	243	Advertising	3	0	0	3	
BUS		Elective	6	0	0	6	
			—	—	—	—	
			15	0	0	15	
SEVENTH QUARTER							
SSC	205	American Institutions	3	0	0	3	
BUS	235	Business Management	3	0	0	3	
BUS	272	Principles of Supervision	3	0	0	3	
BUS		Elective	6	0	0	6	
			15	0	0	15	
C—Class L—Lab P—Practicum QH—Quarter Hours Credit							

ELECTRONIC DATA PROCESSING—BUSINESS—T-22

Computers and information sciences have touched the lives of most Americans in an exciting way. The benefits derived from computers have caused increased demands for personnel in computer science. Because the training of programming personnel on the job by industry is such an expensive undertaking, there is an increasing demand for the qualified graduate in this area. Such a graduate would have the ability to think analytically and logically; a good understanding of data processing concepts; basic programming skills; and a knowledge of business, mathematics, and accounting sufficient to enable him to use his programming skills effectively.

DESCRIPTION OF PROGRAM

The Electronic Data Processing curriculum at Forsyth Technical Institute is designed to train students for employment as computer programmers in business. Students write and debug programs in the languages used most widely in business today. Particular emphasis is placed on COBOL. Students program on up-to-date equipment of the type most widely used in industry. A study of computer systems and basic systems design and analysis is included in the program. Also included are the mathematics, English, and business courses needed to give the student a good background in these areas.

CURRICULUM BY QUARTERS

Course Title			Hrs. Per Week			
			C	L	P	QH
FIRST QUARTER						
ENG	100F	Oral Communications	3	0	0	3
MAT	110	Business Mathematics	5	0	0	5
EDP	101F	Principles of Data Processing	3	0	3	4
EDP	102F	Logic and Decision Making	2	0	3	3
			—	—	—	—
			13	0	6	15
SECOND QUARTER						
BUS	120	Accounting I	4	0	3	5
MAT	111F	EDP Mathematics I	5	0	0	5
EDP	105F	Assembly Language Programming I	5	2	0	6
			—	—	—	—
			14	2	3	16
THIRD QUARTER						
ENG	101	Introductory Written Communications	3	0	0	3
BUS	121	Accounting II	4	0	3	5
MAT	112F	EDP Mathematics II	5	0	0	5
EDP	110F	COBOL Programming I	3	2	0	4
			—	—	—	—
			15	2	3	17
C—Class						
L—Lab						
P—Practicum						
QH—Quarter Hours Credit						

Course Title			Hrs. Per Week			Pre-Tech. Electronic Data Processing 41
			C	L	P	
FOURTH QUARTER						
ENG	102	Composition	3	0	0	3
		EDP Selection	3	2	0	4
EDP	111F	COBOL Programming II	2	4	0	4
EDP	201F	Computer Systems	3	2	0	4
			—	—	—	—
			11	8	0	15
FIFTH QUARTER						
ENG	206	Business Communications	3	0	0	3
EDP	112F	COBOL Programming III	2	4	0	4
EDP	205F	Systems Design and Analysis I	3	2	0	4
		EDP Selection	3	2	0	4
			—	—	—	—
			11	8	0	15
SIXTH QUARTER						
		Social Science Elective	3	0	0	3
EDP	206F	Systems Design and Analysis II	3	2	0	4
		EDP Selection	3	2	0	4
		Business Elective	3	0	0	3
			—	—	—	—
			12	4	0	14
SEVENTH QUARTER						
ENG	103	Report Writing	3	0	0	3
EDP	210F	Language Survey	2	0	0	2
EDP	220F	Research Project	1	8	0	5
		EDP Selection	3	2	0	4
			—	—	—	—
			9	10	0	14
EDP Selections will be specified by the Institution from the following list of courses:						
EDP	260F	Functional Wiring Principles	2	2	0	3
EDP	106F	Assembly Language Programming II	2	4	0	4
EDP	230F	Introduction to FORTRAN	3	2	0	4
EDP	231F	Linear Programming	3	2	0	4
EDP	240F	PL/1 Programming I	3	2	0	4
EDP	241F	PL/1 Programming II	3	2	0	4
EDP	250F	RPC Programming	3	2	0	4

EDP Selections will be specified by the Institution from the following list of courses:

EDP	260F	Functional Wiring Principles	2	2	0	3
EDP	106F	Assembly Language Programming II	2	4	0	4
EDP	230F	Introduction to FORTRAN	3	2	0	4
EDP	231F	Linear Programming	3	2	0	4
EDP	240F	PL/1 Programming I	3	2	0	4
EDP	241F	PL/1 Programming II	3	2	0	4
EDP	250F	RPG Programming	3	2	0	4

Total credits earned during seven quarters will be 109.

C—Class

L—Lab

P—Practicum

QH—Quarter Hours Credit

ELECTRONICS TECHNOLOGY—T-45

Thousands of challenging new job opportunities have opened up for electronic technicians since the advent of missiles, automation, microwave telephone relays, radar electronic controls, transistors, and scores of other electronic inventions and developments. The individual who expects to work in this field must acquire the knowledge and skills which will enable him to assist engineers in building, testing and modifying electronic apparatus in following drawings, sketches and verbal instructions.

DESCRIPTION OF PROGRAM

Forsyth Technical Institute is well equipped to meet the challenge of industry to train electronics technicians. The Institute affords a wide variety of course offerings and well planned class and laboratory sessions which carry the student step-by-step through all the basic concepts to the most advanced developments in the field of electronics.

CURRICULUM BY QUARTERS

Course Title			Hrs. Per Week			
			C	L	P	QH
FIRST QUARTER						
MAT	101	Technical Mathematics I	5	0	0	5
ENG	100F	Oral Communications	3	0	0	3
ELC	101	Fundamentals of Electricity I	5	0	6	7
			—	—	—	—
			13	0	6	15
SECOND QUARTER						
MAT	102	Technical Mathematics II	5	0	0	5
ENG	101	Introductory Written Communication	3	0	0	3
ELC	102	Fundamentals of Electricity II	5	0	6	7
			—	—	—	—
			13	0	6	15
THIRD QUARTER						
MAT	103	Technical Mathematics III	5	0	0	5
ENG	102	Composition	3	0	0	3
PHY	101	Physics: Properties of Matter	3	2	0	4
ELN	105	Control Devices	5	0	6	7
K—Class			—	—	—	—
L—Lab			16	2	6	19
P—Practicum						
QH—Quarter Hours Credit						

Course Title			Hrs. C	Per Week L	P	QH	Pre-Tech. Executive Secretarial Science 43
FOURTH QUARTER							
MAT	201	Technical Mathematics IV	5	0	0	5	
PHY	102	Physics: Work, Energy, Power	3	2	0	4	
ELN	205	Semi-conductor Applications I	5	0	6	7	
			—	—	—	—	
			13	2	6	16	
FIFTH QUARTER							
ENG	103	Report Writing	3	0	0	3	
ECO	102	Economics	3	0	0	3	
ELN	224F	Pulse Circuits and Wave Shaping	4	0	3	5	
ELN	210	Semi-conductor Applications II	5	0	3	6	
			—	—	—	—	
			15	0	6	17	
SIXTH QUARTER							
DFT	101	Technical Drafting I	2	0	6	4	
PSY	206	Applied Psychology	3	0	0	3	
ELN	235	Industrial Electronics	3	0	3	4	
ELN	240	Digital Fundamentals	4	0	3	5	
			—	—	—	—	
			12	0	12	16	
SEVENTH QUARTER							
PHY	104	Physics: Light and Sound	3	2	0	4	
MAT	208	Calculus for Electronics	5	0	0	5	
ELN	245	Electronic Design Project	0	0	6	2	
ELN	220	Electronic Systems Analysis	5	0	3	6	
			—	—	—	—	
			13	2	9	17	
C—Class L—Lab P—Practicum QH—Quarter Hours Credit							

EXECUTIVE SECRETARIAL SCIENCE—T-30

About two million individuals were employed in 1965 in occupations requiring stenographic skills. More than 95 per cent were women. Practically all secretaries record dictation and transcribe it on the typewriter. Usually they have additional duties related to the nature of the employer's business; and sometimes they have special job titles which reflect skill levels or job specialties. In addition to their stenographic work secretaries usually relieve em-

ployers of routine duties and frequently handle a variety of business details on their own initiative. Employment opportunities are rapidly increasing and are expected to be excellent through the middle 1970's.

DESCRIPTION OF PROGRAM

The two year program of studies provides instruction in all phases of secretarial work, including the operation of the most up-to-date office machines. Satisfactory completion of these courses of instruction will qualify a graduate to obtain employment in manufacturing firms, banks, insurance companies, schools, colleges, hospitals, government agencies, and many other fields too numerous to list.

CURRICULUM BY QUARTERS

Course Title			Hrs. Per Week			
			C	L	P	QH
FIRST QUARTER						
ENG	100F	Oral Communications	3	0	0	3
MAT	110	Business Mathematics	5	0	0	5
BUS	101	Introduction to Business	5	0	0	5
BUS	102	Typewriting I	2	0	3	3
			—	—	—	—
			15	0	3	16
SECOND QUARTER						
ENG	101	Introductory Written Communication	3	0	0	3
BUS	103	Typewriting II	2	0	3	3
BUS	106	Shorthand I	3	0	3	4
BUS	120	Accounting I	4	0	3	5
			—	—	—	—
			12	0	9	15
THIRD QUARTER						
ENG	102	Composition	3	0	0	3
BUS	104	Typewriting III	2	0	3	3
BUS	107	Shorthand II	3	0	3	4
BUS	110	Office Machines I	2	0	3	3
			—	—	—	—
			10	0	9	13
C—Class						
L—Lab						
P—Practicum						
QH—Quarter Hours Credit						

Course Title			Hrs.	Per Week				
			C	L	P	QH		
FOURTH QUARTER								
BUS	108	Shorthand III	3	0	3	4		
BUS	115	Business Law I	3	0	0	3		
BUS	105	Typewriting IV	2	0	3	3		
BUS	211	Office Machines II	2	0	3	3		
ENG	103	Report Writing	3	0	0	3		
			—	—	—	—		
			13	0	9	16		

*Pre-Tech.
Executive
Secretarial
Science*
45

FIFTH QUARTER

BUS	206E	Dictation and Transcription I	3	0	3	4		
BUS	205	Typewriting V	2	0	3	3		
EDP	101F	Principles of Business Data Processing	3	0	3	4		
ENG	206	Business Communications	3	0	0	3		
			—	—	—	—		
			11	0	9	14		

SIXTH QUARTER

BUS	207E	Dictation and Transcription II	3	0	3	4		
BUS	214	Secretarial Procedures	3	0	3	4		
PSY	112	Personality Development	3	0	0	3		
BUS		Elective	3	0	0	3		
			—	—	—	—		
			12	0	6	14		

SEVENTH QUARTER

SSC	205	American Institutions	3	0	0	3		
BUS	208E	Dictation and Transcription III	3	0	3	4		
BUS	271	Office Management	3	0	0	3		
BUS	212F	Filing	3	0	0	3		
BUS		Elective	2	0	12	6		
			—	—	—	—		
			14	0	15	19		

C—Class

L—Lab

P—Practicum

QH—Quarter Hours Credit

MANUFACTURING ENGINEERING TECHNOLOGY T-50

This field is perhaps one of the most promising ones that a student with an interest in science and mechanics may enter in our modern technical world. The demand for trained technical people has exceeded the supply for many years and gives every indication of continuing this trend. This two year program prepares the student for employment as an Engineering Assistant in such fields as Quality Control, Plant Layout, Methods and Time Study, Metallurgy, Technical Sales, and Management. Job opportunities exist in industry, Civil Service, Military Service, Insurance (Safety) and the Consulting fields.

DESCRIPTION OF THE PROGRAM

The Manufacturing Engineering Technology program of Forsyth Technical Institute combines both academic courses and laboratory and shop practice. An extensive machine shop, a well equipped material testing laboratory, as well as chemistry and physics laboratories insure that actual job techniques will be practiced and learned. The first year's work is devoted to more intensive specialization in the field of Manufacturing Engineering Technology. Such courses as Metallurgy, Strength of Materials, Statics, Machine Processes, Plant Layout, and Quality Control are studied in depth. A complete description of the courses required for graduation and the awarding of the Associate of Applied Science Degree is given below.

CURRICULUM BY QUARTERS

Course Title			Hrs. Per Week			
			C	L	P	QH
FIRST QUARTER						
MAT	101	Technical Mathematics I	5	0	0	5
ENG	100F	Oral Communications	3	0	0	3
DFT	101	Technical Drafting I	2	0	6	4
MEC	101	Machine Processes I	1	0	6	3
MEC	192	Orientation to Manufacturing Engineering Technology	1	0	0	1
C—Class			—	—	—	—
L—Lab			12	0	12	16
P—Practicum						
QH—Quarter Hours Credit						

Course Title			Hrs. Per Week			
			C	L	P	QH
SECOND QUARTER						
MAT	102	Technical Mathematics II	5	0	0	5
ENG	101	Introductory Written Communication	3	0	0	3
PHY	101	Physics: Properties of Matter	3	2	0	4
DFT	102	Technical Drafting II	2	0	6	4
MEC	102	Machine Processes II	1	0	6	3
			—	—	—	—
			14	2	12	19

*Pre-Tech.
Manufacturing
Engineering
Technology*
47

THIRD QUARTER

MAT	103	Technical Mathematics III	5	0	0	5
ENG	102	Composition	3	0	0	3
MEC	201	Manufacturing Processes I	1	0	6	3
PHY	102	Physics: Work, Energy, Power	3	2	0	4
			—	—	—	—
			12	2	6	15

FOURTH QUARTER

MEC	104F	Applied Mechanics	5	0	0	5
MEC	210	Ferrous Metallurgy	3	0	3	4
MEC	235	Fluid Power	3	0	3	4
MAT	160F	Engineering Computations	1	0	3	2
			—	—	—	—
			12	0	9	15

FIFTH QUARTER

ELC	205	Applied Electricity	3	2	0	4
MEC	205	Strength of Materials	3	2	0	4
MEC	211	Non-Ferrous Metallurgy and Heat Treatment	3	0	3	4
MEC	202	Manufacturing Processes II	2	0	6	4
ECO	102	Economics	3	0	0	3
			—	—	—	—
			14	4	9	19

SIXTH QUARTER

PSY	206	Applied Psychology	3	0	0	3
ISC	202	Quality Control	3	2	0	4
MEC	237	Control Systems	3	2	0	4
ISC	201	Industrial Organization and Management	3	0	0	3
ISC	203	Motion and Time Study	3	2	0	4
			—	—	—	—
			15	6	0	18

C—Class

L—Lab

P—Practicum

QH—Quarter Hours Credit

*Pre-Tech.
Mechanical
Drafting &
Design
Engineering
Technology*
48

Course Title			Hrs. Per Week			
			C	L	P	QH
SEVENTH QUARTER						
ISC	209	Plant Layout	3	2	0	4
ENG	103	Report Writing	3	0	0	3
MEC	230	Plant Services	3	2	0	4
MEC		Elective	2	0	3	3
MEC	203	Welding Processes	2	0	3	3
			—	—	—	—
			13	4	6	17

C—Class

L—Lab

P—Practicum

QH—Quarter Hours Credit

MECHANICAL DRAFTING AND DESIGN ENGINEERING TECHNOLOGY—T-43

Drafting is the language of industrial production, and draftsmen and designers are the language experts in this field. The technical draftsman is responsible for the design and graphical representation of the processes and materials of production. Individuals employed in more than 50 occupations in this field are directly associated with engineering departments and are expected to use creative imagination in the design of tools, machines and machine parts which will facilitate production of goods. This new and rapidly expanding field of employment offers opportunities and salaries which compare favorably with those in any other technical area in this nation and in a number of foreign countries.

DESCRIPTION OF PROGRAM

The drafting and design program at Forsyth Technical Institute is designed to give the student an extensive background in the fundamentals of drafting and an understanding of the application of these principles to the design of machines, tools, dies, fixtures, cams, and gears. The course also provides a knowledge of manufactured products and valuable information for those interested in selling metal products. Emphasis is placed upon the ability to think and plan and not merely upon drafting techniques.

CURRICULUM BY QUARTERS

*Pre-Tech.
Mechanical
Drafting &
Design
Engineering
Technology*

Course Title			Hrs. Per Week			
			C	L	P	QH
FIRST QUARTER						
DFT	101	Technical Drafting I	2	0	6	4
MAT	101	Technical Mathematics I	5	0	0	5
MEC	101	Machine Processes I	1	0	6	3
ENG	100F	Oral Communications	3	0	0	3
DFT	192	Orientation to Design Drafting	1	0	0	1
			—	—	—	—
			12	0	12	16
SECOND QUARTER						
DFT	102	Technical Drafting II	2	0	6	4
MAT	102	Technical Mathematics II	5	0	0	5
MEC	102	Machine Processes II	1	0	6	3
PHY	101	Physics: Properties of Matter	3	2	0	4
ENG	101	Introductory Written Communication	3	0	0	3
			—	—	—	—
			14	2	12	19
THIRD QUARTER						
DFT	103	Technical Drafting III	1	0	9	4
MAT	103	Technical Mathematics III	5	0	0	5
PHY	102	Physics: Work, Energy, Power	3	2	0	4
ENG	102	Composition	3	0	0	3
MEC	201	Manufacturing Processes I	1	0	6	3
			—	—	—	—
			13	2	15	19
FOURTH QUARTER						
DFT	205	Design Drafting I	2	0	6	4
DFT	260F	Dimensioning & Tolerancing	1	0	3	2
MEC	104F	Applied Mechanics	5	0	0	5
MEC	210	Ferrous Metallurgy	3	0	3	4
MEC	235	Fluid Power	3	0	3	4
			—	—	—	—
			14	0	15	19
FIFTH QUARTER						
DFT	204	Descriptive Geometry	3	0	3	4
DFT	206	Design Drafting II	2	0	6	4
MEC	205	Strength of Materials	3	2	0	4
ELC	205	Applied Electricity	3	2	0	4
			—	—	—	—
			11	4	9	16
C—Class						
L—Lab						
P—Practicum						
QH—Quarter Hours Credit						

C—Class

L—Lab

P—Practicum

QH—Quarter Hours Credit

Course Title			Hrs. Per Week		P	QH
			C	L		
SIXTH QUARTER						
DFT	220F	Design Drafting III	3	0	6	5
DFT	211	Mechanisms	3	0	3	4
ENG	103	Report Writing	3	0	0	3
MEC	237	Control Systems	3	2	0	4
			—	—	—	—
			12	2	9	16

SEVENTH QUARTER

DFT	212	Jig & Fixture Design	3	0	6	5
DFT	221F	Product Design	2	0	6	4
PSY	206	Applied Psychology	3	0	0	3
ISC	201	Industrial Organization & Management	3	0	0	3
			—	—	—	—
			11	0	12	15

C—Class

L—Lab

P—Practicum

QH—Quarter Hours Credit

ORNAMENTAL HORTICULTURE—T-09

The modern emphasis toward outdoor living has created a greater interest in the role and use of ornamental plants in today's beauty-conscious society. The increased awareness of the value of ornamental plants by government, industry, and homeowners has produced a greater demand for these and allied horticultural services. With this growth the demand for trained horticulture technicians has increased proportionally. This course of study is based upon an established need for technically trained personnel in the expanding areas of production, management, and distribution of horticultural products.

DESCRIPTION OF PROGRAM

The Ornamental Horticulture program is designed to give students a good understanding of principles, techniques, and skills which are a necessary foundation for the independent, creative thinking essential to success in this field. Successful completion of this program should qualify individuals for employment in supervision of nurseries and plantings, greenhouse operation, work re-

*Pre-Tech.
Ornamental
Horticulture*
51

CURRICULUM BY QUARTERS

Course Title			Hrs. Per Week			
			C	L	P	QH
FIRST QUARTER						
ENG	100F	Oral Communication	3	0	0	3
MAT	110	Business Mathematics	5	0	0	5
CHM	101	Chemistry	4	2	0	5
AGR	170	Plant Science	4	2	0	5
			—	—	—	—
			16	4	0	18
SECOND QUARTER						
ENG	101	Introductory Written Communication	3	0	0	3
ECO	102	Economics	3	0	0	3
AGR	185	Soil Science and Fertilizers	5	2	0	6
AGR	165	Plant Pathology	3	2	0	4
			—	—	—	—
			14	4	0	16
THIRD QUARTER						
ENG	102	Composition	3	0	0	3
AGR	151	Plant Materials I	3	4	0	5
BUS	102	Typewriting I	2	0	3	3
AGR	155	Arboriculture	3	4	0	5
			—	—	—	—
			11	8	3	16
FOURTH QUARTER						
AGR	152	Plant Materials II	3	4	0	5
AGR	145	Entomology	3	2	0	4
AGR	258	Turf Practices	3	4	0	5
			1	2	0	2
			—	—	—	—
			10	12	0	16
FIFTH QUARTER						
ENG	103	Report Writing	3	0	0	3
AGR	251	Landscape Gardening I	3	4	0	5
AGR	256	Nursery Management I	2	4	0	4
AGR	153	Greenhouse Management	3	2	0	4
C—Class			—	—	—	—
L—Lab			11	10	0	16
P—Practicum						
QH—Quarter Hours Credit						

Course Title			Hrs. Per Week			
			C	L	P	QH
SIXTH QUARTER						
BUS	272	Principles of Supervision	3	0	0	3
BUS	232	Sales Development	3	0	0	3
AGR	257	Nursery Management II	2	4	0	4
AGR	252	Landscape Gardening II	3	4	0	5
			—	—	—	—
			11	8	0	15
SEVENTH QUARTER						
AGR	201	Agricultural Chemicals	4	2	0	5
AGR	259	Garden Center Management	3	2	0	4
AGR	254	Plant Propagation	2	4	0	4
		Elective	3	0	0	3
C—Class			—	—	—	—
L—Lab						
P—Practicum			12	8	0	16
QH—Quality Hour Credit						

POLICE SCIENCE

Police officers, both men and women, are employed in protective service work. They are charged with the responsibility of protecting the life and property of our nation by their work in community, town, and city police departments. Their major responsibilities include preserving the peace, preventing criminal acts, enforcing the law, and apprehending those who are violators of the law.

Many opportunities occur annually for qualified individuals to enter police work. However, future opportunities may be determined to a greater degree by technological, scientific, and other changes in today's police work. A greater increase in the amount of education and specialized training required for entrance into this field seems imminent.

DESCRIPTION OF PROGRAM

The curriculum is designed to instruct the student in up-to-date law enforcement methods and in the behavioral sciences. The curriculum also provides a firm base of general education including chemistry, math, and language skills. Upon successful completion, the student is awarded the Associate of Applied Science degree, which some senior institutions are willing to consider for transfer credit leading to the Bachelor's degree.

CURRICULUM BY QUARTERS*

*Pre-Tech.
Police
Science*
53

Course Title		Hrs.	Per Week		
		C	L	P	QH

FIRST QUARTER

ENG	010	Individualized English Grammar (if required)	3	0	0	0
MAT	110	Business Mathematics	5	0	0	5
PSC	101	Introduction to Law Enforcement	5	0	0	5
PSY	102	General Psychology	5	0	0	5
			18	0	0	15

SECOND QUARTER

ENG	101	Introductory Written Communication	3	0	0	3
POL	102	Government—National	5	0	0	5
PSC	220	Police Organization—Administration	5	0	0	5
			13	0	0	13

THIRD QUARTER

ENG	102	Composition	3	0	0	3
POL	103	Government—State and Local	5	0	0	5
PSC	110	Police Role in Crime and Delinquency	5	0	0	5
		Elective	3	0	0	3
			16	0	0	16

FOURTH QUARTER

SOC	102	Principles of Sociology	5	0	0	5
ENG	103	Report Writing	3	0	0	3
PSC	201	Traffic Planning and Management	4	2	0	5
		Elective	3	0	0	3
			15	2	0	16

FIFTH QUARTER

ENG	100F	Oral Communication	3	0	0	3
CHM	100F	Chemistry	4	2	0	5
PSC	115	Criminal Law	5	0	0	5
		Elective	3	0	0	3

C—Class

L—Lab

P—Practicum

QH—Quarter Hours Credit

			15	2	0	16
--	--	--	----	---	---	----

Course Title

Hrs. Per Week

C

L

P

QH

SIXTH QUARTER

PSC	205	Criminal Evidence
PSC	210	Criminal Investigation
		Elective

5	0	0	5
5	0	0	5
5	0	0	5
—	—	—	—
15	0	0	15

SEVENTH QUARTER

PSC	211	Introduction to Criminalistics
PSC	225	Criminal Procedure
PSY	103	Adolescent Psychology

4	3	0	5
5	0	0	5
5	0	0	5
—	—	—	—
14	3	0	15

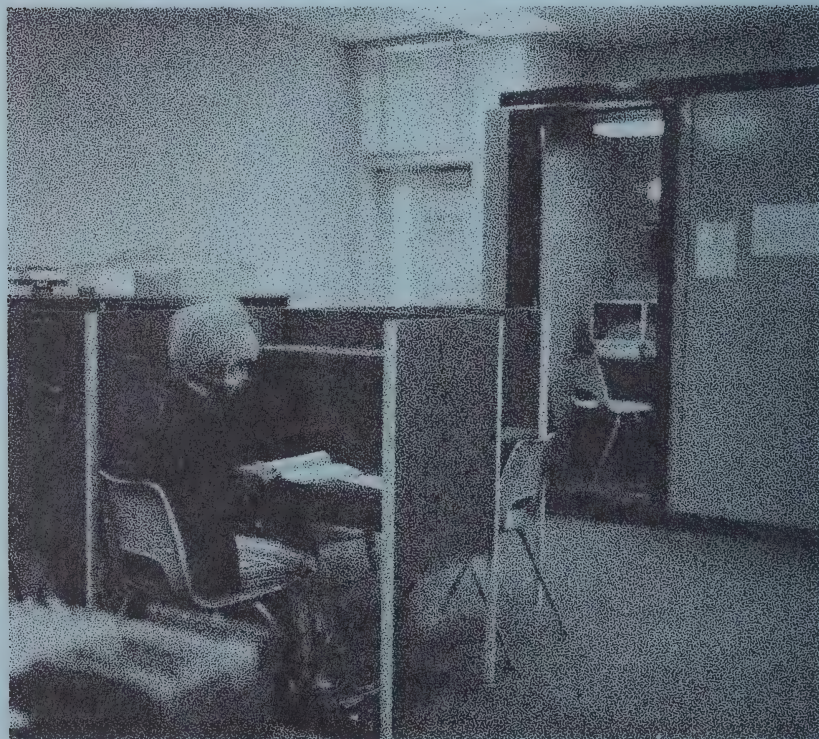
*This curriculum outline is tentative.

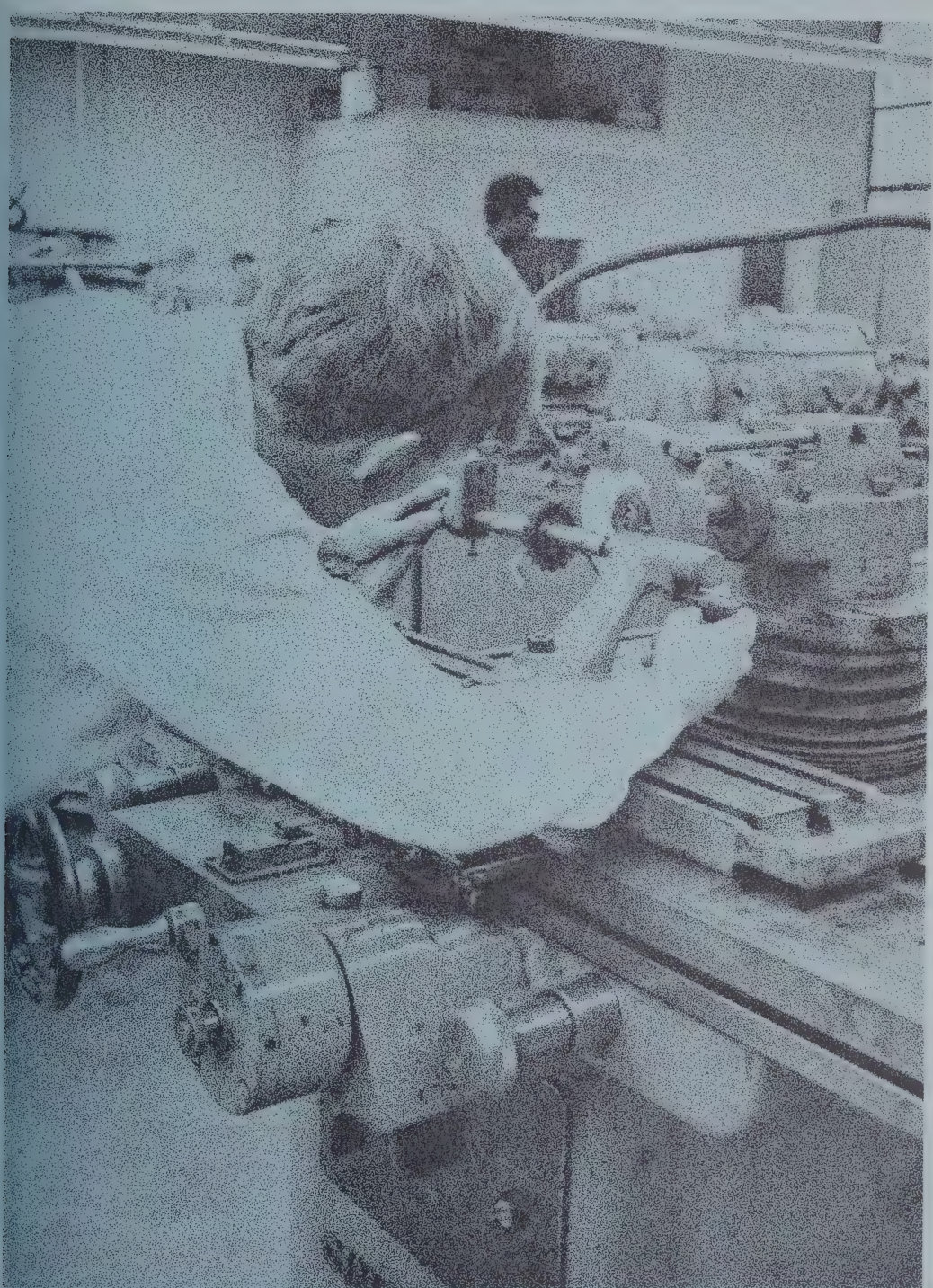
C—Class

L—Lab

P—Practicum

QH—Quarter Hours Credit





DIPLOMA PROGRAMS

AIR CONDITIONING, REFRIGERATION AND HEATING—V-24

Over 60,000 persons are now employed in the field of air conditioning and refrigeration alone. The demand for people trained in the heating, air conditioning and refrigeration fields is growing very rapidly. As our standard of living increases people expect better control of temperatures, humidity and dust in their places of business and also their homes. Also the demand of business for better food storage facilities is increasing. Another field of work is in the area of automobile and industrial transportation air conditioning. Manufacturing facilities, theaters, as well as churches also offer a great deal of opportunity for the person trained in the field of climate control. All of these areas require a person who is trained to a high level of skill, and this Institute combines both the academic training and actual work experience to provide an individual who has the desire and ability an opportunity to enter this promising field at a high level of skill.

DESCRIPTION OF THE PROGRAM

Completion of the training program in Heating, Air Conditioning and Refrigeration at Forsyth Technical Institute prepares a student for immediate employment in the field. There is little lag between employment and actual job performance because the student has gained extensive practice on modern units of all kinds provided by the school in his laboratory classes. Below is listed the outline of courses required in order to earn a North Carolina Trade Diploma.



CURRICULUM BY QUARTERS

*Diploma
Automotive
Body
Repair*
57

Course Title			Hrs. Per Week			
			C	L	S	QH
FIRST QUARTER						
AHR	1102	Fundamentals of Refrigeration	6	0	10	9
WLD	1111	Air Conditioning Welding	1	0	3	2
MAT	1102	Algebra	5	0	0	5
ELC	1110	Applied Electricity I	3	2	0	4
			—	—	—	—
			15	2	13	20
SECOND QUARTER						
AHR	1103	Domestic and Commercial Refrigeration	6	0	12	10
ELC	1111	Applied Electricity II	3	2	0	4
DFT	1101	Schematics and Diagrams	0	0	3	1
ENG	1101	Reading Improvement	3	0	0	3
			—	—	—	—
			13	2	15	18
THIRD QUARTER						
AHR	1104	Air Conditioning Controls I	5	0	3	6
AHR	1105	Principles of Air Conditioning	5	0	9	8
PHY	1101	Applied Science I	3	2	0	4
ENG	1112	Communication	3	0	0	3
			—	—	—	—
			16	2	12	21
FOURTH QUARTER						
AHR	1106F	Air Conditioning Controls II	3	0	0	3
HET	1101	Heating Systems	6	0	15	11
PSY	1101	Human Relations	3	0	0	3
BUS	1103	Small Business Operations	3	0	0	3
			—	—	—	—
C—Class			15	0	15	20
L—Lab						
S—Shop						
QH—Quarter Hours Credit						

AUTOMOTIVE BODY REPAIR

Graduates of the Automotive Body Repair curriculum are qualified for jobs in which they remove dents in automobile-truck bodies and fenders; remove various sheet metal parts and replace them with new ones; straighten frames, doors, hoods, and deck lids. In their work, these craftsmen operate welding equipment including oxy-acetylene, electric arc, spot weld and inert gas. Body repairmen

shrink stretched metal and prepare it for painting. They are called on to paint fenders and/or panels as well as to paint a complete vehicle with any one of a number of paint and thinner types available to them. This type of employment includes reading and interpreting blueprints, chart instruction and service manuals, and wiring diagrams. These repairmen also prepare orders for repairs and parts as well as estimates and statements for adjusters. After gaining experience, many of these craftsmen open their own businesses or become body shop foremen, supervisors or managers.

DESCRIPTION OF PROGRAM

The field of automotive body repair and painting needs many more well-trained people to meet the growing demand for the many special skills in this area of employment. In this program, much of the students' time in the shop is devoted to learning skills and practicing these skills on car and truck bodies and their component parts. Every attempt is made to make these practical experiences as close as possible to actual on-the-job situations. The practical experience and related training provide an ideal way to prepare the students for entry into an occupation that offers many job opportunities.

CURRICULUM BY QUARTERS

Course Title			Hrs. Per Week			
			C	L	S	QH
FIRST QUARTER						
AUT	1111	Automotive Body Repair	3	0	12	7
MAT	1101	Fundamentals of Mathematics	5	0	0	5
ENG	1101	Reading Improvement	3	0	0	3
WLD	1130F	Applied Basic Arc and Gas Welding	1	0	6	3
			—	—	—	—
			12	0	18	18
SECOND QUARTER						
AUT	1112	Automotive Body Repair	3	0	15	8
WLD	1102	Applied Metal Preparation and Welding	1	0	3	2
PHY	1101	Applied Science I	3	2	0	4
ENG	1102	Communication Skills	3	0	0	3
C—Class			—	—	—	—
L—Lab			10	2	18	17
P—Practicum						
QH—Quarter Hours Credit						

Course Title			Hrs. Per Week			Diploma Automotive Mechanics 59
			C	L	P	
THIRD QUARTER						
AUT	1113	Metal Finishing and Painting	2	0	12	6
PSY	1101	Human Relations	3	0	0	3
WLD	1131F	Applied Inert Gas Welding	2	0	3	3
AUT	1114	Frame Straightening and Alignment	2	0	6	4
			—	—	—	—
			9	0	21	16
FOURTH QUARTER						
BUS	1103	Small Business Operations	3	0	0	3
DFT	1101	Schematics and Diagrams	0	0	3	1
AUT	1115F	Body Shop Applications	3	0	21	10
C—Class			—	—	—	—
L—Lab			6	0	24	14
S—Shop						
QH—Quarter Hours Credit						

AUTOMOTIVE MECHANICS—V-03

The automotive mechanics service and repair field is an ever-growing one with a great demand for well-trained men. The person in the automotive field with the knowledge and working background of the automobile will have excellent opportunities for jobs in service stations, dealerships, and independent garages with a good salary depending upon his ability to produce good work. In early 1965, most of the more than half-million automobile mechanics worked in independent repair shops, service departments of new and used car dealers, and gasoline service stations. Many others are employed by Federal, State and local governments; taxicab, bus and automobile leasing companies and by automobile manufacturers. There will be many thousands of job openings in the 1965-75 decade.

DESCRIPTION OF PROGRAM

The automotive program is designed to take the student without any automotive experience and teach him the many tools used for service and repairs of the automobile. He is taught in each phase of the auto program, the construction, purpose and detail operation of each component so that he will have a better understanding of how to service and repair these components. He is also taught the

operation and use of equipment that he will encounter in the service field when on the job. By using live autos and proper equipment, we have the student dealing with the actual problems with which he will be confronted when serving the public as a repair man.

CURRICULUM BY QUARTERS

Course Title			Hrs. Per Week		S	QH
			C	L		
FIRST QUARTER						
PME	1101	Internal Combustion Engines	4	0	15	9
PME	1103	Automobile Fuel Systems	1	0	3	2
BUS	1103	Small Business Operations	3	0	0	3
MAT	1101	Fundamentals of Mathematics	5	0	0	5
			—	—	—	—
			13	0	18	19
SECOND QUARTER						
AUT	1123	Automotive Chassis & Suspension Systems	4	0	15	9
WLD	1101	Basic Gas Welding	1	0	3	2
ENG	1101	Reading Improvement	3	0	0	3
PHY	1101	Applied Science I	3	2	0	4
			—	—	—	—
			11	2	18	18
THIRD QUARTER						
PME	1102	Automotive Electrical Systems	4	0	15	9
AHR	1101	Automotive Air Conditioning	2	0	3	3
ENG	1112	Communication	3	0	0	3
DFT	1101	Schematics and Diagrams	0	0	3	1
			—	—	—	—
			9	0	21	16
FOURTH QUARTER						
AUT	1124	Automotive Power Trains	4	0	9	7
AUT	1125	Automotive Servicing	3	0	12	7
PSY	1101	Human Relations	3	0	0	3
			—	—	—	—
			10	0	21	17

C—Class

L—Lab

S—Shop

QH—Quarter Hours Credit

BUILDING TRADES DRAFTING—V-15

*Diploma
Building
Trades
Drafting*
61

In mid-1964 an estimated 260,000 draftsmen, about 6 per cent of whom were women, were employed in manufacturing and non-manufacturing industries. About 26,000 of these were employed by Federal, State, and local governments while several thousands more were working in colleges, universities and non-profit organizations. Non-manufacturing industries employing large numbers of draftsmen are: engineering and architectural consulting firms, construction firms, and public utilities. Manufacturing industries offer opportunities in machinery, electrical equipment, fabricated metal products and transportation equipment. Salaries range from \$350 to \$565 or more, per month, and the employment outlook is expected to continue good.

DESCRIPTION OF PROGRAM

The Building Trades Drafting program offered at Forsyth Technical Institute is a well rounded course of study in both practical and academically related subjects. There are well equipped laboratories with up-to-date facilities and "top notch" instructors who have had extended experience in their field. Emphasis in the trade drafting classes is on experience with actual rather than hypothetical problems.

CURRICULUM BY QUARTERS

Course Title			Hrs. Per Week			
			C	L	P	QH
FIRST QUARTER						
DFT	1121	Drafting I	4	0	12	8
MAT	1103	Geometry	3	0	0	3
PHY	1101	Applied Science I	3	2	0	4
DFT	1144	Building Materials and Methods	3	0	0	3
C—Class			—	—	—	—
L—Lab			13	2	12	18
P—Practicum						
QH—Quarter Hours Credit						

*Diploma
Carpentry*

62

Course Title

Hrs. Per Week

C

L

P

QH

SECOND QUARTER

DFT	1122	Drafting II	4	0	12	8
DFT	1125	Descriptive Geometry	2	0	3	3
ENG	1101	Reading Improvement	3	0	0	3
MAT	1102	Algebra	5	0	0	5
			—	—	—	—
			14	0	15	19

THIRD QUARTER

DFT	1141	Drafting III	4	0	15	9
DFT	1143	Building Mechanical Equipment	3	0	0	3
MAT	1104	Trigonometry	3	0	0	3
PHY	1104	Applied Science III: Light and Sound	3	2	0	4
			—	—	—	—
			13	2	15	19

FOURTH QUARTER

DFT	1142	Drafting IV	4	0	15	9
CIV	1101	Surveying	2	0	3	3
BUS	1106	Free Enterprise System	3	0	0	3
ENG	1112	Communication	3	0	0	3
			—	—	—	—
			12	0	18	18

C—Class

L—Lab

P—Practicum

QH—Quarter Hours Credit

CARPENTRY—V-07

Carpentry is one of the basic trades in the construction field. Carpenters construct, erect, install, and repair structures of wood, plywood, wallboard, and other materials, using hand and power tools. The finished work must conform to local building codes for both residential and commercial structures. Most carpenters are employed by contractors in the building construction fields. When specializing in a particular phase of carpentry, the trade is designated according to the specialty. Examples of this are layout carpenter, framing carpenter, concrete form carpenter, scaffolding carpenter, accoustical and insulating carpenter, and finish carpenter.

DESCRIPTION OF PROGRAM

*Diploma
Carpentry*

63

This curriculum in carpentry is designed to train the individual to enter the trade with a background in both shop skills and related information courses. Carpentry practices are included to give practical training. Courses in mathematics, blueprint reading, methods of construction and building materials are also provided.

CURRICULUM BY QUARTERS

Course Title			Hrs. Per Week		
			C	S	QH
FIRST QUARTER					
CAR	1101	Framing, Sheathing and Insulation I	2	18	8
MAT	1113	Carpenter's Mathematics	5	0	5
DFT	1110	Blueprint Reading I	0	3	1
ENG	1101	Reading Improvement	3	0	3
			—	—	—
			10	21	17
SECOND QUARTER					
CAR	1102	Framing, Sheathing and Insulation II	3	18	9
MAT	1114	Carpenter's Mathematics and Estimating	3	0	3
DFT	1111	Blueprint Reading II	0	3	1
PSY	1101	Human Relations	3	0	3
			—	—	—
			9	21	16
THIRD QUARTER					
CAR	1103	Interior and Exterior Trim	3	21	10
CAR	1114	Building Codes	3	0	3
BUS	1103	Small Business Operations	3	0	3
			—	—	—
			9	21	16
FOURTH QUARTER					
CAR	1105	Finish Work	6	21	13
ENG	1112	Communication	3	0	3
			—	—	—
			9	21	16

C—Class

S—Shop

QH—Quarter Hours Credit

DIESEL TRUCK MAINTENANCE AND REPAIR
V-13

Diesel mechanics keep bulldozers, tractors, ships, trucks, and other diesel powered equipment that is widely used on highways, farms and industry in good operating order. Most diesel mechanics specialize in maintenance and repair of one of the above classifications of diesel equipment; others specialize in areas such as engine rebuilding or fuel injection. Those who do maintenance and repair work must not only be capable of unit rebuilding, but must also perform periodic cleaning, adjusting and tuneups, that are necessary for efficient operation.

DESCRIPTION OF PROGRAM

The diesel curriculum of Forsyth Technical Institute is designed to help the student upon graduation to enter the maintenance division of the trucking industry. The scope and nature of shop work performed by the student match closely that of the trucking industry. Repair and maintenance of current model trucks and component parts obtained from industry assures the student of training on equipment similar to that he will encounter upon graduation. The shop is equipped with hand tools and reconditioning and testing equipment predominantly used by the trucking industry.

CURRICULUM BY QUARTERS

Course Title			Hrs. Per Week			
			C	L	S	QH
FIRST QUARTER						
DSL	1101	Diesel Engines	4	0	15	9
WLD	1101	Basic Gas Welding	1	0	3	2
PHY	1101	Applied Science I	3	2	0	4
ENG	1101	Reading Improvement	3	0	0	3
			—	—	—	—
C—Class			11	2	18	18
L—Lab						
P—Practicum						
QH—Quarter Hours Credit						

Course Title			Hrs. Per Week				Diploma Electrical Installation 65
SECOND QUARTER			C	L	P	QH	
DSL	1102	Diesel Electrical and Fuel Systems	4	0	15	9	
AHR	1101	Automotive Air Conditioning	2	0	3	3	
MAT	1101	Fundamentals of Mathematics	5	0	0	5	
DFT	1101	Schematics and Diagrams	0	0	3	1	
			—	—	—	—	
			11	0	21	18	
THIRD QUARTER							
DSL	1103	Diesel Fuel Injection	2	0	6	4	
DSL	1104	Power Trains, Chassis & Suspension Systems	4	0	15	9	
ENG	1112	Communication	3	0	0	3	
			—	—	—	—	
			9	0	21	16	
FOURTH QUARTER							
DSL	1105	Diesel Servicing	4	0	16	9	
MEC	1120	Machine Processes	1	0	6	3	
BUS	1106	Free Enterprise System	3	0	0	3	
			—	—	—	—	
			8	0	22	15	

C—Class
 L—Lab
 S—Shop
 QH—Quarter Hours Credit

ELECTRICAL INSTALLATION—V-18

The rapid expansion of the national economy and the increasing development of new electrical products are providing a growing need for qualified people to install and maintain electrical equipment. The graduate of the electrical trades program will be qualified to enter an electrical trade as an on-the-job trainee or apprentice, where he will assist in the planning, layout, installation, check out, and maintenance of systems in residential, commercial, and industrial plants. He will have the necessary background to be able to advance through experience and additional training through up-grading courses offered by the Institute.

DESCRIPTION OF PROGRAM

This program will provide training in the basic knowledge, fundamentals, and practices involved in the electrical trades. A large portion of the program is devoted to laboratory and shop instruction which is designed to give the student practical knowledge and application experience in the fundamentals taught in class. He will have a basic knowledge of motor and motor control systems, industrial electronic control systems, business procedures and communicative skills. He will have an understanding of the fundamentals of the National Electrical Code regulations as related to wiring, electrical circuits, and the measurements of voltage, current, power, and power factor of single and polyphase alternating circuits.

CURRICULUM BY QUARTERS

Course Title			Hrs. Per Week			
			C	L	S	QH
FIRST QUARTER						
ELC	1112	Direct and Alternating Current	5	0	12	9
ENG	1101	Reading Improvement	3	0	0	3
MAT	1116F	Electrical Mathematics	5	0	0	5
PHY	1101	Applied Science I	3	2	0	4
			—	—	—	—
			16	2	12	21
SECOND QUARTER						
ELC	1113	Alternating Current and Direct Current Machines and Controls	5	0	15	10
DFT	1110	Blueprint Reading: Building Trades	0	0	3	1
ENG	1112	Communication	3	0	0	3
PHY	1102	Applied Science II	3	2	0	4
			—	—	—	—
			11	2	18	18
THIRD QUARTER						
ELC	1124	Residential Wiring	5	0	10	8
ELN	1118	Industrial Electronics	3	0	6	5
PSY	1101	Human Relations	3	0	0	3
DFT	1113	Blueprint Reading: Electrical	0	0	3	1
			—	—	—	—
			11	0	19	17
C—Class						
L—Lab						
P—Practicum						
QH—Quarter Hours Credit						

Course Title			Hrs. Per Week				Diploma Graphic Arts 67
			C	L	P	QH	
FOURTH QUARTER							
ELC	1125	Commercial and Industrial Wiring	5	0	13	9	
ELN	1119	Industrial Electronics	3	0	6	5	
BUS	1103	Small Business Operations	3	0	0	3	
			—	—	—	—	
			11	0	19	17	
C—Class							
L—Lab							
S—Shop							
QH—Quarter Hours Credit							

GRAPHIC ARTS—V-22

Printing is the second largest industry in the United States in terms of the number of existing establishments. Presently there are over 32,000 printing plants—a number exceeded only by those in the food industry. If we gauged national behavior on the basis of this fact, we would have to conclude the American people like to eat first and read second.

Printing is carried on everywhere, all over the world. Wherever there is civilization, there is printing. The printer can be employed on a weekly newspaper in a small town, or he can work in one of the huge plants in Chicago, New York or California.

Working conditions are, as a rule, good. Work, especially on the newspapers, is steady and there are no seasonal layoffs as there are in some other industries.

DESCRIPTION OF PROGRAM

This curriculum is designed to give students experiences in a cluster of activities representing basic areas of the graphic arts industry. The range of experiences is sufficient to enable students to understand a variety of graphic arts processes and to develop skills enabling them to perform these processes with a high degree of efficiency. The print shop is large and well lighted, and the equipment is the most modern which can be obtained.

CURRICULUM BY QUARTERS

Course Title			Hrs. Per Week		S	QH
			C	L		
FIRST QUARTER						
MAT	1101	Fundamentals of Mathematics	5	0	0	5
PRN	1111	Printing Processes	2	2	0	3
PRN	1121	Hand Composition	2	0	6	4
PRN	1122	Letterpress Printing I	2	0	9	5
PRN	1101	Printer's English	2	0	0	2
			—	—	—	—
			13	2	15	19
SECOND QUARTER						
ENG	1101	Reading Improvement	3	0	0	3
PHY	1114	Applied Science: Chemistry and Light	3	2	0	4
PRN	1130	Letterpress Printing II	3	0	9	6
PRN	1123	Hot Type Composition I	3	0	9	6
			—	—	—	—
			12	2	18	19
THIRD QUARTER						
ENG	1112	Communication	3	0	0	3
PRN	1125	Offset Camera I	3	0	9	6
PRN	1126	Offset Presswork I	3	0	9	6
PRN	1114	Estimating I	5	0	0	5
			—	—	—	—
			14	0	18	20
FOURTH QUARTER						
BUS	1106	Free Enterprise System	3	0	0	3
PRN	1131	Estimating II	5	0	0	5
PRN		Elective	4	0	18	10
			—	—	—	—
C—Class			12	0	18	18
L—Lab						
S—Shop						
QH—Quarter Hours Credit						

MACHINIST—V-32

If there is any one employee that modern manufacturing companies cannot do without it is probably the machinist. It is the machinist who is responsible for forming out of steel the idea that the engineer sends to him in the form of a blueprint. To be able to make very complex parts using lathes, milling machines, and grinders requires a great deal of skill. Most companies are interested in hiring only those who have been well trained before seeking

**Diploma
Machinist**
69

The machinist course offered at the Forsyth Technical Institute is both broad and detailed. It is broad enough to permit the graduate to fill a number of jobs in the machine shop of a company, but it has the depth to make certain that he understands the work fully. The demand for trained machinists is much greater than the supply. For the person who likes to work with his hands, to see formless pieces of metal take the shape of an engine piston, or a part for a modern missile, or perhaps an instrument used for surgical work, the machinist field might be just the area in which he would find job happiness and financial success.

Course Title			Hrs.	Per Week		
			C	L	S	QH
FIRST QUARTER						
MEC	1101	Machine Shop Theory and Practice I	3	0	12	7
MAT	1101	Fundamentals of Mathematics	5	0	0	5
DFT	1104	Blueprint Reading: Mechanical I	0	0	3	1
WLD	1101	Basic Gas Welding	1	0	3	2
BUS	1106	Free Enterprise System	3	0	0	3
			—	—	—	—
			12	0	18	18
SECOND QUARTER						
MEC	1102	Machine Shop Theory and Practice II	3	0	12	7
MAT	1102	Algebra	5	0	0	5
PHY	1101	Applied Science I	3	2	0	4
DFT	1105	Blueprint Reading: Mechanical II	0	0	3	1
MEC	1115	Treatment of Ferrous Metals	2	0	3	3
			—	—	—	—
			13	2	18	20
C—Class						
L—Lab						
P—Practicum						
QH—Quarter Hours Credit						

*Diploma
Mechanical
Drafting*

70

Course Title			Hrs. Per Week		P	QH
			C	L		
THIRD QUARTER						
MEC	1103	Machine Shop Theory and Practice III	4	0	12	8
DFT	1106	Blueprint Reading; Mechanical III	0	0	3	1
MAT	1103	Plane Geometry	3	0	0	3
ENG	1101	Reading Improvement	3	0	0	3
MEC	1116	Treatment of Non-Ferrous Metals	2	0	3	3
			—	—	—	—
			12	0	18	18

FOURTH QUARTER

MEC	1104	Machine Shop Theory and Practice IV	4	0	15	9
MAT	1104	Trigonometry	3	0	0	3
PHY	1102	Applied Science II	3	2	0	4
ENG	1112	Communication	3	0	0	3
			—	—	—	—
			13	2	15	19

C—Class

L—Lab

S—Shop

QH—Quarter Hours Credit

MECHANICAL DRAFTING

Draftsmen prepare clear, accurate, complete working plans and detail drawings from rough or detailed sketches or notes for engineering or manufacturing purposes, according to specified dimensions. The mechanical draftsmen specialize in drafting detailed working drawings of machinery and mechanical devices required for manufacture and repair of mechanisms.

In private industry in 1964 the beginning salary for draftsmen was \$350 per month. Experienced draftsmen can expect to earn between \$6,000 and \$7,000 per year, depending on the nature of the position and the responsibility involved. Draftsmen sometimes move into related positions such as technical report writers, sales engineers, production foremen, and installation technicians.

DESCRIPTION OF PROGRAM

*Diploma
Mechanical
Drafting*

71

This curriculum is designed to prepare students to enter the field of mechanical drafting. The first two quarters contain courses basic to all fields of drafting. The third and fourth quarters contain specialization and related courses that prepare one to enter mechanical drafting occupations.

Each course is prepared to enable an individual to advance rapidly in drafting proficiency upon entering the field of work. Courses are arranged in sequence to develop drafting skills and proficiency in mathematics and science. The draftsman associates with many levels of personnel—administrative, architects, engineers, skilled workmen—and must be able to communicate effectively with them. Courses to develop knowledge and skills in communication, human relations, economics, and industrial organization are provided to assist the student in developing understandings and confidence in his relations with other persons.

CURRICULUM BY QUARTERS

Course Title				Hrs. Per Week			
				C	L	P	QH
FIRST QUARTER							
DFT	1121	Drafting I		4	0	12	8
MAT	1103	Geometry		3	0	0	3
ENG	1101	Reading Improvement		3	0	0	3
PHY	1101	Applied Science I		3	2	0	4
				—	—	—	—
				13	2	12	18
SECOND QUARTER							
DFT	1122	Drafting II		3	0	12	7
MAT	1102	Algebra		5	0	0	5
DFT	1125	Descriptive Geometry		2	0	3	3
PHY	1102	Applied Science II		3	2	0	4
				—	—	—	—
				13	2	15	19
C—Class							
L—Lab							
P—Practicum							
QH—Quarter Hours Credit							

**Diploma
Plumbing,
Heating**

72

Course Title			Hrs. Per Week			
			C	L	P	QH
THIRD QUARTER						
DFT	1131	Mechanical Drafting	2	0	12	6
MAT	1104	Trigonometry	3	0	0	3
MEC	1115	Treatment of Ferrous Metals	2	0	3	3
MEC	1113	Shop Processes	2	0	3	3
ENG	1112	Communication	3	0	0	3
			—	—	—	—
			12	0	18	18
FOURTH QUARTER						
DFT	1132	Mechanical Drafting	2	0	12	6
MEC	1116	Treatment of Non-Ferrous Metals	2	0	3	3
MEC	1114	Shop Processes	2	0	3	3
BUS	1105	Industrial Organizations	3	0	0	3
PSY	1101	Human Relations	3	0	0	3
			—	—	—	—
			13	0	18	18
C—Class						
L—Lab						
P—Practicum						
QH—Quarter Hours Credit						

PLUMBING AND HEATING—V-37

Plumbers are the craftsmen who install pipe systems which carry water, steam, air, or other liquids or gases needed for sanitation, heating, industrial production, and various other uses. During the past decade, there has been a steady increase in the demand for these craftsmen. Most plumbers are employed by building contractors, and as building construction continues to increase the demand for plumbers will increase. Plumbing and pipefitting are sometimes considered as a single trade. Journeymen in this field may specialize in either one.

DESCRIPTION OF PROGRAM

This curriculum in plumbing and heating is designed to train the individual to enter this occupation with the knowledge and skills that will enable him to perform effectively. Courses in plumbing practices and heating are included to provide practical experience as well as the theoretical information that one must have to advance and keep up-to-date with new innovations.

CURRICULUM BY QUARTERS

*Diploma
Practical
Nursing*
73

Course Title		Hrs. Per Week			
		C	L	S	QH
FIRST QUARTER					
PLU	1116	Plumbing Pipework and Domestic Water Systems			
		5	0	15	10
DFT	1110	Blueprint Reading			
		0	0	3	1
MAT	1117F	Plumber's Arithmetic			
		4	0	0	4
PSY	1101	Human Relations			
		3	0	0	3
		—	—	—	—
		12	0	18	18

SECOND QUARTER

WLD	1101	Basic Gas Welding			
		1	0	3	2
PLU	1125	Industrial Piping			
		2	0	6	4
PLU	1126	Hydraulic Systems Plumbing			
		2	0	3	3
PLU	1130	Plumbing Layouts and Codes			
		4	0	6	6
ENG	1101	Reading Improvement			
		3	0	0	3
		—	—	—	—
		12	0	18	18

THIRD QUARTER

BUS	1103	Small Business Operations			
		3	0	0	3
PLU	1123	Hot Water and Panel Heating			
		3	0	7	5
PLU	1122	Low and High Pressure Steam Systems			
		5	0	12	9
		—	—	—	—
		11	0	19	17

FOURTH QUARTER

PLU	1112	Plumbing Fixtures and Installations			
		2	0	3	3
DFT	1111F	Drafting I: Plumbing			
		1	0	3	2
PLU	1120F	Plumbing Maintenance and Trouble Shooting			
		3	0	18	9

C—Class

L—Lab

S—Shop

QH—Quarter Hours Credit

PRACTICAL NURSING—V-38

The graduate Licensed Practical Nurse is an important member of the health team. In addition to the nursing care she is able to give the convalescing patients and those with chronic or handicapping conditions, she is equipped to assist registered nurses in providing care for the more acutely ill and injured. Opportunities for employment in hospital, private and nursing homes, doctors'

offices, schools and industries are almost unlimited. Both men and women find opportunities for service as Licensed Practical Nurses. The primary objective of the Practical Nurse Education program is to educate the student in the knowledge, appreciation, and skill which will be needed as an effective practitioner within the defined scope of Practical Nursing.

DESCRIPTION OF PROGRAM

The practical nursing student receives one year (four quarters) of classroom instruction and nursing practice through the Practical Nurse Education programs sponsored by the Department of Community Colleges, State Board of Education, Vocational Technician Division.

Following one quarter of classroom instruction in fundamentals of nursing and principles from the biological and social sciences, the student has the opportunity to practice nursing skills under faculty supervision in the hospital area. In advanced quarters, she studies the nursing care of patients of all ages through carefully planned assignments correlated with classroom instruction in medical-surgical nursing, care of the sick child, and care of the mother and newborn infant.

CURRICULUM BY QUARTERS

Course Title			Hrs. Per Week			
			C	L	P	QH
FIRST QUARTER						
PNE	1101	Fundamentals of Practical Nursing	6	0	6	8
PNE	1102	Nutrition and Diet Therapy	3	0	0	3
PNE	1103	Anatomy and Physiology	3	0	0	3
PSY	1101	Human Relations	3	0	0	3
PNE	1105	Introduction to Drug Administration	3	0	0	3
			—	—	—	—
			18	0	6	20
SECOND QUARTER						
PNE	1106	Medical-Surgical Nursing I	5	0	0	5
PNE	1107	Maternity Nursing	2	0	0	2
PNE	1108	Nursing of Children	3	0	0	3
PNE	1109	Clinical Experience	0	0	24	8
C—Class			—	—	—	—
L—Lab			10	0	24	18
P—Practicum						
QH—Quarter Hours Credit						

Course Title			Hrs. Per Week				Diploma Television Servicing 75
			C	L	P	QH	
THIRD QUARTER							
PNE	1110	Medical-Surgical Nursing II	5	0	0	5	
PNE	1111	Drug Therapy	2	0	0	2	
PNE	1112	Clinical Experience	0	0	24	8	
ENG	1101	Reading Improvement	3	0	0	3	
			—	—	—	—	
			10	0	24	18	
FOURTH QUARTER							
PNE	1113	Medical-Surgical Nursing III	5	0	0	5	
PNE	1114	Clinical Experience	0	0	24	8	
PNE	1115	Personal and Vocational Relationships	2	0	0	2	
ENG	1112	Communication	3	0	0	3	
			—	—	—	—	
			10	0	24	18	

C—Class
L—Lab
P—Practicum
QH—Quarter Hours Credit

TELEVISION SERVICING—V-42

Skilled television and radio service technicians use their knowledge of electrical and electronic parts and circuits to install and repair a growing number of electronic products. Of these, television receivers are by far the most prominent; other major electronic products are radios, phonographs, inter-communication equipment, tape recorders and public address systems. Employment of television and radio service men is expected to increase rapidly during the next ten years.

DESCRIPTION OF PROGRAM

The television repair curriculum includes a training program which will provide the basic knowledge and skills involved in the installation, maintenance and servicing of television receivers. During the last quarter intensive work in servicing of color television will be given. A working knowledge of circuits, schematic diagrams and troubleshooting procedures is given in the one-year day and two-year evening programs. Intensive laboratory studies supplement classroom lecture and demonstration.

CURRICULUM BY QUARTERS

Course Title			Hrs. Per Week		P	QH
			C	L		
FIRST QUARTER						
ELC	1120	Direct and Alternating Current	8	8	6	14
MAT	1115	Elements of Mathematics	5	0	0	5
BUS	1103	Small Business Operations	3	0	0	3
			—	—	—	—
			16	8	6	22
SECOND QUARTER						
ELN	1121	Vacuum Tubes and Circuits	4	4	3	7
ELN	1122	Transistor Theory and Circuits	5	4	6	9
PHY	1104	Applied Science III: Light and Sound	3	2	0	4
			—	—	—	—
			12	10	9	20
THIRD QUARTER						
ELN	1123	Black and White Television Servicing	10	8	9	17
ENG	1101	Reading Improvement	3	0	0	3
			—	—	—	—
			13	8	9	20
FOURTH QUARTER						
ELN	1124	Color Television Servicing	10	8	9	17
ENG	1112	Communication	3	0	0	3
			—	—	—	—
			13	8	9	20
C—Class L—Lab P—Practicum QH—Quarter Hours Credit						

WELDING AND METAL FABRICATION—V-50

Welding and metal fabrication is one of the nation's fastest growing fields. Growth in the metal working industry in two decades has been phenomenal. In the manufacturing, construction, and service industries, the forming, shaping and joining of metals by welding, brazing or soldering is fast growing in importance. Without them none of our achievements in space research would have been possible. Where there is industry there is welding. Quality welding cannot be done without careful training and practical experience. Jobs in this field are readily available for the trained person, and earnings are exceptionally good.

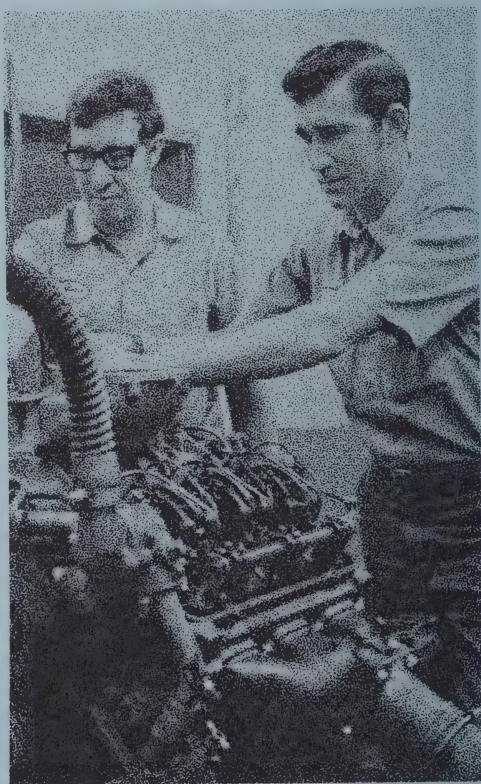
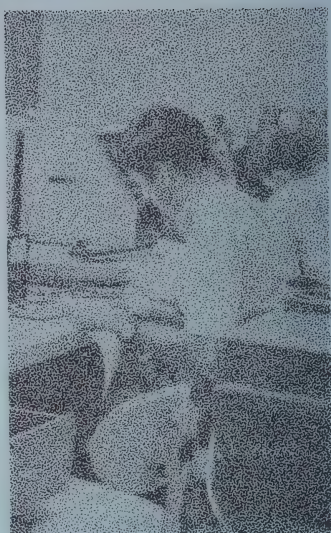
DESCRIPTION OF THE PROGRAM

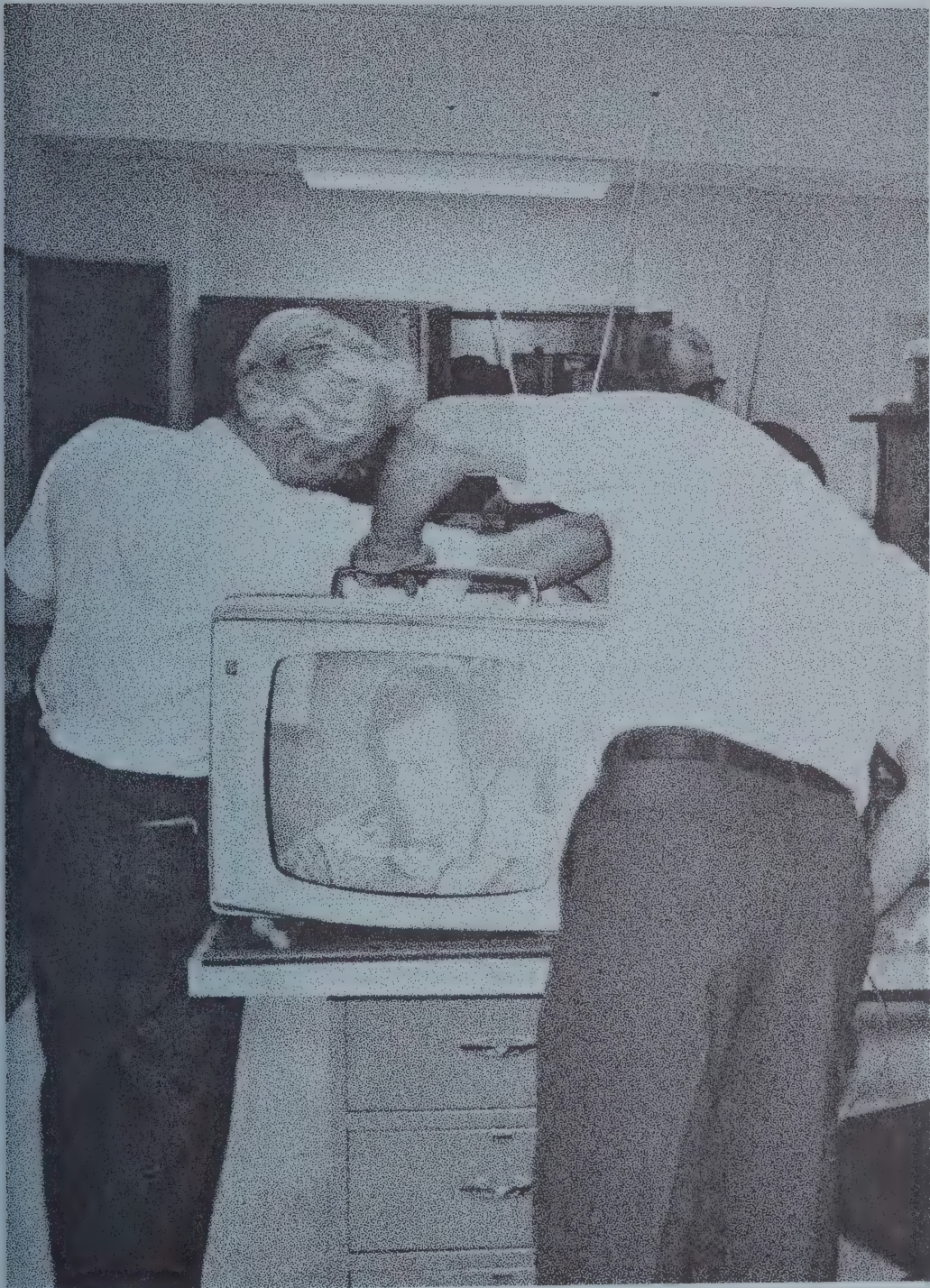
The welding and metal fabrication course offered at Forsyth Technical Institute provides the student with the necessary experience in the welding and metal fabrication processes, and also broadens his technical education in such fields as Blueprint Reading, Shop Math, Metallurgy, and Physical Science. The principles of fabrication and fabrication equipment are taught in the shop each quarter along with the welding processes. Upon successful completion of the curriculum courses the student is given the standard American Welding Society (A-W-S) Welder Qualification Test.

*Diploma
Welding,
Metal
Fabrication*
77

CURRICULUM BY QUARTERS

Course Title			Hrs. Per Week			
			C	L	S	QH
FIRST QUARTER						
MAT	1101	Fundamentals of Mathematics	5	0	0	5
BUS	1106	Free Enterprise System	3	0	0	3
DFT	1104	Blueprint Reading: Mechanical	0	0	3	1
WLD	1120	Oxyacetylene Welding and Cutting	4	0	15	9
			—	—	—	—
			12	0	18	18
SECOND QUARTER						
ENG	1101	Reading Improvement	3	0	0	3
PHY	1101	Applied Science I	3	2	0	4
WLD	1121	Basic Arc Welding	3	0	16	8
DFT	1105	Blueprint Interpretation	0	0	3	1
			—	—	—	—
			9	2	19	16
THIRD QUARTER						
ENG	1112	Communication	3	0	0	3
MEC	1115	Treatment of Ferrous Metals	2	0	3	3
WLD	1124	Advanced Arc Welding	3	0	12	7
WLD	1123	Inert Gas Welding	2	0	6	4
			—	—	—	—
			10	0	21	17
FOURTH QUARTER						
PSY	1101	Human Relations	3	0	0	3
MEC	1112	Machine Shop Processes	1	0	3	2
WLD	1113	Mechanical Testing and Inspection	1	0	3	2
WLD	1126	Advanced Inert Gas Welding	2	0	10	5
WLD	1127	Introduction to Pipe Welding	1	0	6	3
			—	—	—	—
			8	0	22	15
C—Class						
L—Lab						
P—Practicum						
QH—Quarter Hours Credit						





ADULT EDUCATION

ADULT EDUCATION—EVENING PROGRAM

*T*he Adult Education Program offers a variety of courses that serve the many educational needs of our local community. These courses vary in purpose and may be designed specifically for the particular needs of the general public or of local industry. Presently the courses which make up the program fall within the following general classifications: Occupational Extension, Supervisory Development Training, New Industry Training, Vocational Curriculum, Adult High School Diploma, Enrichment, and Adult Basic Education. New programs are periodically developed when needs become apparent.

Those individuals who wish to work toward a high school diploma or toward a diploma in one of vocational areas should plan their sequence of courses with the evening counselor.

Anyone seeking additional information or wishing to develop a new program should contact the Director of Adult Education at the Institute.

OCCUPATIONAL EXTENSION PROGRAM

Courses in this program are occupationally oriented, providing adults with the opportunity to upgrade skills and knowledge in certain vocational and technical areas. This program is the largest administered by the Adult Education Department and includes upgrading training in such areas as drafting, health occupations, firemanship training, and welding. It also gives the regular curriculum graduates of the Institute an opportunity to participate in a continuing educational program after entering the world of work.

The following is a brief list of courses which have been offered in the past, and may be offered in the future:

Advanced Algebra
Automotive Tune-Up

Basic Arc Welding
Basic Computer Logic

Blueprints and Measurements
 Central Air Conditioning
 Systems
 Communications in Nursing
 Electrical Apprenticeship
 Electrical Installation and
 Repair
 Electrical Systems (Diesel
 Trucks)
 Estimating for Printers
 FCC Radiotelephone Opera-
 tor's License (Prep. I & II)
 Fundamentals of Solid State
 Color Television Circuitry
 Math Review, Analytic Geom-
 etry, and Calculus
 Mechanical Drawing
 Numerical Control Milling
 Machine Applications
 Nursing Mathematics
 Nutrition
 Offset Printing
 Orientation of Time and Mo-
 tion
 Personnel Management

Plumbing Apprenticeship
 Power Sewing
 Reading Improvement
 Recruit Training for Police
 Officers
 Small Engine Repair
 General Machine Shop Prac-
 tices
 House Plan Drawing and
 Planning
 Introduction to Cabinet Mak-
 ing
 Introduction to Fire Protec-
 tion Hazards
 Machine Shop Processes
 Machinist Apprenticeship
 Technical Illustrating
 Technical Mathematics
 Technical Report Writing
 Tolerancing and Dimension-
 ing for Engineering Draw-
 ings
 Truck Suspension and Wheel
 Alignment
 Written Communications

*Adult Ed.
 Supervisory
 Training*
 81

COST: Ranges from \$4.00 to \$12.50 per course, depending on the length of course.

TIME: Generally, classes are conducted one or two evenings per week (Monday through Thursday and Saturday mornings) for a period of eleven (11) weeks.

NOTE: The Adult Education Director should be contacted if additional information about this program is required.

SUPERVISORY DEVELOPMENT TRAINING

Supervisory Development Training is an educational program designed to upgrade the competency of supervisory and mid-management personnel in business and industry. Classes are scheduled in accordance with the needs of industry.

Supervisors or potential supervisors may qualify for an SDT Diploma by completing courses totaling 160 clock hours. For supervisors pursuing the SDT Diploma, it is suggested that this program be planned to cover a two-year period.

Applicants for this program should presently be a supervisor or have ambitions to become a supervisor; small business owners; or management trainees. There are no pre-requisites for entry into the program.

The cost of the program is \$5.00 per course, and each course meets one night per week for eleven (11) weeks.*

The Supervisory Development Training Program includes such courses as:

Art of Motivating People	Plant Maintenance and
Economics	Housekeeping
Human Relations	Principles of Supervision
Applied Psychology	Labor Law
Quality Control	Handling Barriers in Com-
Time and Motion Study	munication
Techniques of Clear Writing	Public Speaking
Business Letter Writing	Guidance and Counseling
Extemporaneous Speaking	Instructor Training
Cost Accounting	Techniques That Produce
Business Mathematics	Teamwork
Principles of Administration	Job Analysis Training
Management Problem Solving	Effective Job Organization
Operations Decision-Making	Personnel Management
and Coordinating	Operations Staffing and Com-
Conference Leadership	municating Materials
Industrial Safety and Accident	Handling
Prevention	Operations Planning and Con-
First Aid Instruction	trol
	Job Methods Training

The Evening Counselor should be contacted for further information.

*Certain ones of these courses are also offered on Saturday morning.

VOCATIONAL PROGRAMS

*Adult Ed.
New
Industry
Training*

83

Forsyth Technical Institute offers a variety of vocational educational curriculum courses in the evening. These courses lead to a diploma upon satisfactory completion of a particular program. The programs are organized on a quarter basis, consisting of from nine to twelve quarters, each quarter lasting eleven (11) weeks. The classes may be conducted any evening Monday through Thursday from 6:00 p.m. until 10:00 p.m., or on Saturday mornings.

Applicants for this program should be 18 years old and should have completed the 10th grade. A high school transcript, a completed application form, and the results of the General Aptitude Test Battery given by the Employment Security Commission should all be given to the evening counselor prior to entering a curriculum.

The cost for vocational courses varies from \$5.00 to \$12.50 per course depending on the credit hours of instruction per course.

The following is a list of vocational programs offered:

Air Conditioning, Refrigeration and Heating	10 quarters
Automotive Mechanics	12 quarters
Building Trades Drafting	9 quarters
Mechanical Drafting	9 quarters
Television Servicing	10 quarters
Machinist Trade	10 quarters
Welding	10 quarters

The evening counselor should be contacted if additional information is required.

NEW INDUSTRY TRAINING

One of the basic objectives of Forsyth Technical Institute is to participate in the creation of more challenging and rewarding jobs for the citizens of our community by providing a customized training service to new and expanding industries. Subject to minimal limitations, this institution, in cooperation with the Industrial Services Division of the Department of Community Colleges, will design and administer a special program for training the production manpower required by any new or expanding industry creating new job opportunities. The purpose of this program is to assist new or

expanding industry to meet its immediate manpower needs and to develop a long-range training program of its own to satisfy its continuing replacement and retraining needs.

This program includes the following services:

1. Consultation in determining job descriptions; defining areas of training; and prescribing appropriate course outlines, training schedules and materials.
2. Selection and training of instructors and providing instructional services for the duration of the training program.
3. Providing of suitable space for a temporary training facility prior to the completion of the new plant including the installation costs of equipment in the temporary training facility.

The Director of Adult Education should be contacted if additional information about this program is required.

ADULT HIGH SCHOOL DIPLOMA PROGRAM

Forsyth Technical Institute, in cooperation with the Winston-Salem/Forsyth County School System, is now offering evening courses for high school credit to adult students who wish to obtain an adult high school diploma.

Classes in each course meet two nights per week from 6:15 to 9:15 for eleven (11) weeks. Students may carry two courses per quarter and need a total of 17 courses to complete the program.

Persons to be enrolled must be 18 years of age or older, and the class with which they entered high school must have graduated. Each enrollee must have completed the eighth grade, or a higher grade, in an accredited school, or he must have completed the eighth grade level in the Adult Basic Education Program conducted by the Department of Community Colleges. Each enrollee must be in an acceptable condition of physical and mental health.

Information regarding eligibility, courses needed for graduation, and registration for classes should be obtained from the evening counselor at Forsyth Technical Institute. The counselor is available for personal consultation in the Student Services Office Monday through Thursday from 1:00 p.m. until 10:00 p.m. and on Friday from 8:00 a.m. until 5:00 p.m.

There is no cost to the student other than that of books and supplies.

*Adult Ed.
Enrichment*
85

Transcripts of work done will be furnished by the evening counselor on written request of the student.

The following is a list of high school courses by quarter:

Spring Quarter	Summer Quarter	Fall Quarter	Winter Quarter
English I	English I	English I	English I
English II	English II	English II	English II
English III	English III	English III	English III
English IV	English IV	English IV	English IV
World History	American Gov- ernment	World History	American Gov- ernment
Biology	Economics	Biology	Algebra I
Consumer Math	General Math	Consumer Math	Economics
Recordkeeping	General Science	Recordkeeping	General Science
Sociology	Personal Typing	Sociology	Personal Typing
U. S. History	Psychology	U. S. History	Psychology

Filler Courses

Bookkeeping	Health	World Geography
Business Machines	Public Speaking	

NOTE: Filler courses will be offered when 15 people notify the evening counselor of their interest.

Each quarter the student should make an appointment for a pre-registration conference in the Office of Student Services.

The evening counselor should be contacted for additional information about this program.

ENRICHMENT PROGRAM

The Enrichment Program offers a variety of one quarter terminal courses designed for self-interest and self-development.

Some of the courses offered in the past are:

Art—	Beginners Oil Painting
	Intermediate Oil Painting
	Advanced Oil Painting
	Freehand Drawing

Cake Decorating
Flower Arranging
Interior Decorating
Personal Income Tax
Real Estate
Stock Market
Sewing—

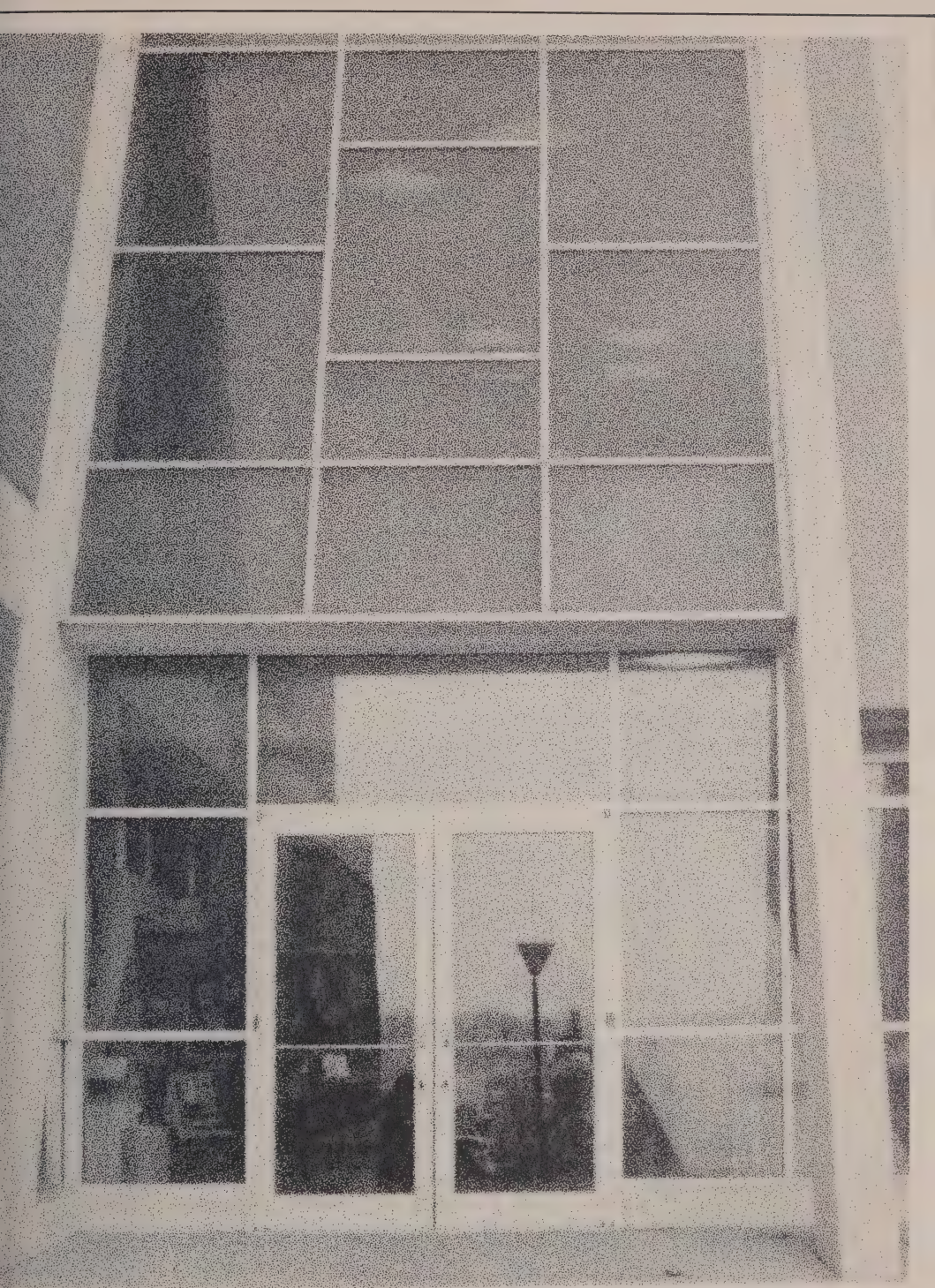
Tailoring—

Beginners Sewing
Advanced Sewing
Beginners Tailoring
Advanced Tailoring

Cost—Approximately \$5.00 per course.

Time—Classes are conducted one evening per week (Monday through Thursday) and on Saturday morning for a period of eleven (11) weeks.





COURSES OF INSTRUCTION

AIR CONDITIONING

AHR 106 Architectural Mechanical Equipment

General study of heating, air conditioning, plumbing and electrical equipment, materials and symbols. Building code requirements pertaining to residential and commercial structures. Reading and interpretation of working drawings by mechanical engineers. Coordination of mechanical and electrical features with structural and architectural designs. Prerequisite: None.

AHR 1101 Automotive Air Conditioning

General introduction to the principles of refrigeration; study of the assembly of the components and connections necessary in the mechanisms, the methods of operation, and control; proper handling of refrigerants in charging the system. Prerequisite: PHY 1101.

AHR 1102 Fundamentals of Refrigeration

Identification, selection and use of hand, measuring and special refrigeration tools. Power drills, grinders and pipe threaders. Copper tubing, fittings and tubing fabrication. Physics related to refrigeration. The basic refrigeration cycle. Classification, characteristics and properties of refrigerants. Types, purpose and principle of operation of compressors, condensers, receivers and evaporators. Assembly and operation of a basic refrigeration system. Leak checking, evacuating and charging. Compressor operational checks. System trouble analysis. Prerequisite: None.

AHR 1103 Domestic and Commercial Refrigeration

Types and operating principles of domestic hermetic units. Also domestic absorption units. Operation and trouble analysis of hermetic electrical components and circuits. Repair and maintenance of hermetic units. Calculation of heat loads. Equipment selection and system balance. The purpose, operating principles, installation and maintenance of the following: floats, automatic and thermostatic expansion valves, thermostatic and pressure motor controls, heat exchangers, oil separators, driers, suction filters and minor accessories. Installation, operation, service and trouble analysis of the following equipment: walk-in coolers, display cases, frozen food cabinets, reach-in cabinets, water coolers and ice makers. Also multiple compressor and evaporator system operation. Prerequisite: AHR 1102.

AHR 1104 Air Conditioning Controls I

Theory of pneumatic controls. Principles of operations, application, connection and adjustment: pressure regulators and pneumatic thermostats, dual thermostats, heating-cooling thermostats and humidistats, valves, dampers and pilot positioners, non-bleed controllers, two-position controls. Theory of electrical controls. Principles of operation, application, wiring and adjusting: Series 20, 40, 60 and 90 controls. Prerequisite: AHR 1102, 1103.

AHR 1105 Principles of Air Conditioning

Introduction to air conditioning. Psychrometrics. Principles of load estimating. Air distribution. Applied load estimating. Residential and commercial equipment. Balancing the system. Prerequisite: AHR 1102, AHR 1103.

**Courses of
Instruction
Agriculture**
89

AHR 1106F Air Conditioning Controls II

Continuation of AHR 1104. Prerequisite: AHR 1104.

AGRICULTURE

AGR 145 Entomology

A study of insects that attack ornamental plant materials. The nature, structure, and importance of each insect studied in detail. Additional emphasis placed upon detection, identification, and control of the insects studies. Prerequisite: None.

AGR 151 Plant Materials I

Introduction to the study of woody plant materials which gives an overview of the woody plants grown in nurseries for landscape purposes and those found in woodlands and fields of North Carolina. Emphasizes deciduous shrubs and small trees. Prerequisite: None.

AGR 152 Plant Materials II

A continuation of T-AGR 151 in which additional trees and shrubs are studied. Major emphasis placed upon the detailed study of broad leaved and narrow leaved evergreens. Prerequisite: AGR 151.

AGR 153 Greenhouse Management

Fundamentals and practices in greenhouse plant production. Construction and management of plastic and glass greenhouses, including the control of heat, light, ventilation, and humidity. Crop studies include both cut flower and pot plant crops. Prerequisite: None.

AGR 155 Arboriculture

Includes the principles and practices of selection, use, establishment, and care of shade and ornamental trees. Practical applications in the course include climbing, pruning, bracing, and other physical operations required of skilled tree workers. Prerequisite: None. (Female students exempt from field work.)

AGR 165 Plant Pathology

A study of the control of diseases of ornamental crops through the study of structure, life history, and identification of the various parasitic disorders which plague ornamental trees, shrubs, flowers, and turf. Prerequisite: None.

AGR 170 Plant Science

An introductory general botany course covering the fundamental principles of the reproduction, growth, functions, and development of seed bearing plants. Prerequisite: none.

AGR 185 *Soil Science and Fertilizers*

A course dealing with basic principles of efficient classification, evaluation, and management of soils; care, cultivation, and fertilization of the soil, and conservation of soil fertility. Prerequisite: None.

AGR 201 *Agricultural Chemicals*

A study of agricultural chemicals—their importance, ingredients, formulation, and application with emphasis on the effective and safe utilization of chemicals in agricultural pest control. Major emphasis placed upon weed identification and those chemicals utilized for weed control. Part of the course devoted to those chemicals other than herbicides—such as insecticides, fungicides, and others. Prerequisite: CHM 101.

AGR 251 *Landscape Gardening I*

An introduction and study of the basic principles of landscape design. Considerable emphasis placed on the problems associated with residential site development. Includes: a section devoted to blueprint reading. Considerable laboratory time devoted to visiting established residential sites. The course is not oriented toward a mastery of creativity and artistry, but toward an understanding of certain basic principles fundamental to all landscape design endeavors. Prerequisites: AGR 151 & AGR 152.

AGR 252 *Landscape Gardening II*

Development and maintenance of landscape areas including planting, pruning, fertilization, and pest control. Fundamentals of landscape economics: costs, contracts, calculating areas, volumes, and plant quantities for landscape projects. Selection and use of materials in landscape construction. Prerequisite: AGR 151, AGR 152, AGR 251.

AGR 254 *Plant Propagation*

A study of basic concepts and principles of sexual and asexual propagation. Techniques studied through practical exercises conducted in laboratory sessions. Emphasis given to those propagation methods widely utilized in the industry. Prerequisite: None.

AGR 256 *Nursery Management I*

An introductory study of nursery operations to acquaint the student with the diversity of nursery plant production, equipment, and operation detail through the study of such areas as pruning, fertilization, plant protection, and others. Additional emphasis placed on the theory and practices necessary to produce profitable nursery stock. Prerequisite: None.

AGR 257 *Nursery Management II*

A continuation of AGR 256 with increased emphasis placed upon production schedules, choice and quantities of stock to be grown, as well as developing cost finding, price establishing, and record keeping for economically important nursery crops. Planning of nursery layout and facilities. Prerequisite: AGR 256.

AGR 258 *Turf Practices*

A study of special-purpose turf grasses including identification, use, establishment, and maintenance of the specific grasses. Laboratory time used for field trips to golf courses where each student observes and participates in those

operations required to maintain a healthy, vigorous playing surface. Prerequisite: AGR 185.

AGR 259 Garden Center Management

A course covering all phases of garden center operations including some of the major problems. Areas of study include such factors as: layout, stocking, product knowledge, traffic flow, seasonal fluctuation, risks, diversification, and merchandizing. Ample time devoted to visiting established garden center operations. Prerequisite: None.

**Courses of
Instruction
Automotive
91**

AUTOMOTIVE

AUT 1111 Automotive Body Repair

Basic principles of automobile construction, design, and manufacturing. A thorough study of angles, crown, and forming of steel into the complex contour of the present-day vehicles. Application of basic principles of straightening, aligning, and painting of damaged areas. Prerequisite: None.

AUT 1112 Automotive Body Repair

A thorough study of the requirements for a metal worker, including the use of essential tools, forming fender flanges and beads, and straightening typical auto body damage. The student begins acquiring skills such as shaping angles, crowns, and contour of the metal of the body and fenders. Metal working and painting. Prerequisites: AUT 1111, WLD 1101, MAT 1101

AUT 1113 Metal Finishing and Painting

Development of the skill to shrink stretched metal, soldering and leading, and preparation of the metal for painting. Straightening of doors, hoods, and deck lids; fitting and aligning. Painting fenders and panels, spot repairs, and complete vehicle painting; the use and application of power tools. Prerequisites: AUT 1112, WLD 1102.

AUT 1114 Frame Straightening and Alignment

General introduction and instruction in the automotive frame and front end suspension systems, the methods of operation and control, and the safety of the vehicle. Unit job application covers straightening of frames and front wheel alignment. Prerequisite: AUT 1112.

AUT 1115F Body Shop Applications

Application of all phases of training. Repair order writing, parts purchasing, estimates of damage, and developing the final settlement with the adjuster. Prerequisites: AUT 1111, AUT 1112, AUT 1113, 1114.

AUT 1123 Automotive Chassis and Suspension Systems

Principles and functions of the components of automotive chassis. Practical job instruction in adjusting and repairing of suspension and steering systems. Units to be studied: shock absorbers, springs, steering systems, steering linkage and front end and its alignment. Prerequisite: None.

AUT 1124 Automotive Power Trains

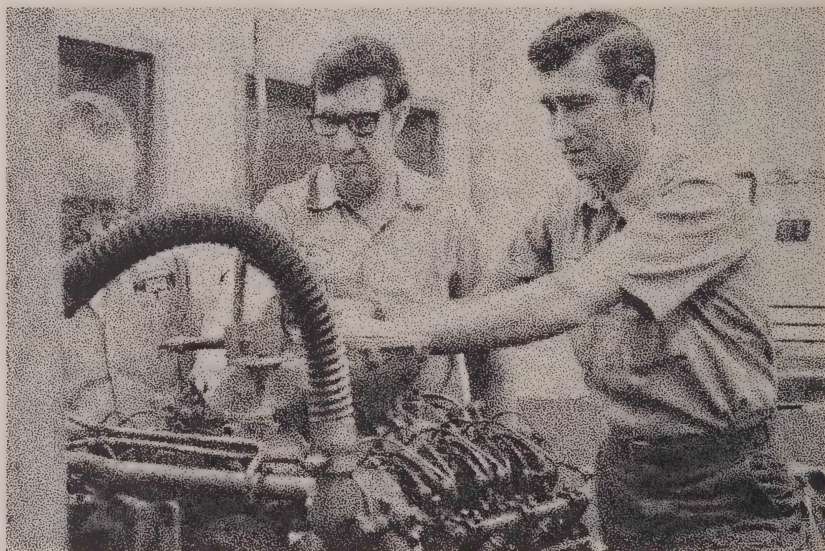
Principles and functions of automotive power train systems: clutches, transmission gears, torque converters, drive shaft assemblies, rear axles and differentials. Identification of troubles, servicing, and repair. Prerequisite: None.

AUT 1125 Automotive Servicing

Emphasis on the shop procedures necessary in determining the nature of troubles developed in the various component systems of the automobile. Trouble-shooting of automotive systems, providing a full range of experiences in testing, adjusting, repairing and replacing. Prerequisites: PME 1101, 1102, 1103; AUT 1123, 1124, 1125.

PME 1101 Internal Combustion Engines

Development of a thorough knowledge and ability in using, maintaining, and storing the various hand tools and measuring devices needed in engine repair work. Study of the construction and operation of components of internal combustion engines. Testing of engine performance; servicing and maintenance of pistons, valves, cams and camshafts, fuel and exhaust systems, cooling systems; proper lubrication; and methods of testing, diagnosing and repairing. Prerequisite: None.



PME 1102 Automotive Electrical Systems

A thorough study of the electrical system of the automobile. Battery, cranking mechanism, generator, ignition, accessories and wiring; special tools, and testing equipment for the electrical system. Prerequisite: PME 1101.

PME 1103 Automotive Fuel Systems

A study of the characteristics of fuels, types of fuel systems, fuel pumps, carburetors, fuel injectors, special tools and testing equipment for the fuel system. Prerequisite: None.

BUSINESS

*Courses of
Instruction
Business*
93

BUS 002 Introduction to Business Occupations

A course designed to familiarize the student with business curricula at Forsyth Technical Institute. The employment possibilities and further educational opportunities of graduates from two-year business curricula are explored.

BUS 010 Pre-Technical Accounting

A course designed for those students entering Business Administration, Executive Secretarial Science, and Electronic Data Processing-Business who have not had bookkeeping in high school. A concentrated study of the bookkeeping cycle including journalizing, posting, summarizing and preparing of financial statements, and closing of books.

BUS 101 Introduction to Business

A survey of the business world with particular attention devoted to the structure of the various types of business organization, methods of financing, internal organization, and management. Prerequisite: None.

BUS 102 Typewriting I

Introduction to the touch typewriting system with emphasis on correct techniques, mastery of the keyboard, simple business correspondence, tabulation, and manuscripts. Prerequisite: None.

BUS 103 Typewriting II

Emphasizes the development of speed and accuracy with further mastery of correct typewriting techniques. Includes application of these skills and techniques in tabulation, manuscripts, correspondence, and business forms. Prerequisite: BUS 102 or the equivalent.

BUS 104 Typewriting III

Emphasis on production typing problems and speed building. Attention to the development of the student's ability to function as an expert typist, producing mailable copies. The production units are tabulation, manuscript, correspondence, and business forms. Prerequisite: BUS 103 or the equivalent.

BUS 105 Typewriting IV

A continuation of BUS 104. Prerequisite: BUS 104 or equivalent.

BUS 106 Shorthand I

A beginning course in the theory and practice of reading and writing shorthand. Emphasis on phonetics, penmanship, word families, brief forms, and phrases. Prerequisite: None.

BUS 107 Shorthand II

Continued study of theory with greater emphasis on dictation and elementary transcription. Prerequisite: BUS 106 or the equivalent.

BUS 108 Shorthand III

Theory and speed building. Introduction to office style dictation. Emphasis on development of speed in dictation and accuracy in transcription. Prerequisite: BUS 107.

BUS 110 Office Machines I

A general survey of the business and office machines. Emphasizes techniques, processes, operation and application of the ten-key adding machines, full key-board adding machines, and calculator. Prerequisite: BUS 102.

BUS 115 Business Law I

A general course designed to acquaint the student with certain fundamentals and principles of business law. Includes contracts, negotiable instruments, and agencies. Prerequisite: None.

BUS 116 Business Law II

Includes the study of laws pertaining to bailment, sales, risk-bearing, partnership-corporation, mortgages, and property rights. Prerequisite: BUS 115.

BUS 120 Accounting I

The study of the principles, techniques, and tools of the accounting process. Includes the collecting, summarizing, analyzing and reporting of financial information. Emphasizes application of the principles learned. Prerequisite: MAT 110.

BUS 121 Accounting II

Major attention given to the procedures involved in the recording of receivables, payables, inventories, deferrals, accruals, plant assets, and payrolls. Emphasizes application of the processes learned. Prerequisite: BUS 120.

BUS 123 Business Finance I

A study of the principles and problems of financing business firms from the standpoint of maintaining solvency. Emphasizes short-term financing in relation to uses, sources, and management of credit. Introduction of long-term debt and equity financing. Prerequisite: BUS 120.

BUS 124 Business Finance II

A study of long-term financing. Emphasis on equity financing within the corporation. Topics include the securities markets and investment companies, growth through acquisition, and liquidation procedures. Prerequisite: BUS 123.

BUS 205 Typewriting V

Emphasis placed on the development of individual production rates. Emphasizes the techniques needed in planning and in typing projects that closely approximate the work appropriate to the field of study. Projects include review of letter forms, methods of duplication, statistical tabulation, and the typing of reports, manuscripts and legal documents. Prerequisite: BUS 105.

BUS 206E Dictation and Transcription

Develops the skill of taking dictation and of transcribing at the typewriter materials appropriate to the course of study. Includes a review of the theory and the dictation of familiar and unfamiliar material at varying rates of speed. Minimum dictation rate of 100 words per minute required for five minutes on new material. Prerequisite: BUS 108.

BUS 207E Dictation and Transcription

Emphasizes accuracy, speed, and vocabulary that will enable student to meet the stenographic requirements of business and professional offices. Minimum

dictation rate of 110 words per minute required for five minutes on new material. Prerequisite: BUS 206E.

BUS 208E Dictation and Transcription

Principally a speed building course, covering materials appropriate to the course of study, with emphasis on speed as well as accuracy. Minimum dictation rate of 120 words per minute required for five minutes on new material. Prerequisite: BUS 207E.

BUS 211 Office Machines II

Instructions in the operation of the bookkeeping-accounting machines, duplicating equipment, and the dictating and transcribing machines. Prerequisite: BUS 110.

BUS 212F Filing

Fundamentals of indexing and filing, combining theory and practice by the use of miniature letters, filing boxes and guides. Alphabetic, Triple Check, Automatic, Geographic, Subject, Soundex, and Dewey Decimal filing. Prerequisite: None.

BUS 214 Secretarial Procedures

Designed to acquaint the student with the responsibilities encountered by a secretary during the work day. Includes receptionist duties, handling the mail, telephone techniques, travel information, telegrams, office records, purchasing of supplies, office organization, and insurance claims. Prerequisite: Open to second year students only.

BUS 229 Taxes

A study and application of federal and state taxes as applied to individuals, partnerships, and corporations. Emphasizes the preparation of individual income tax returns. Prerequisite: BUS 121.

BUS 232 Sales Development

A study of retail, wholesale and specialty selling. Emphasizes the mastering and the application of the fundamentals of selling. Preparation for and execution of sales demonstrations required. Prerequisite: None.

BUS 235 Business Management

The study of major functions of management such as planning, staffing, controlling, and financing. Particular emphasis placed on factors and problems involved in starting a new business. Students encouraged to think and act the roles of entrepreneur and manager. Prerequisite: None.

BUS 239 Marketing

A study of the principles and problems of marketing goods and services in a free enterprise economy. Emphasizes product selection and development, promotion, channels of distribution and pricing. Prerequisite: ECO 102.

BUS 243 Advertising

The study of the methods and techniques used by ad men and agencies to persuade the public to buy. Topics covered are market research, selection of media, and evaluation and testing of ad effectiveness. Theory and practice in writing and designing ad copy included in class activity. Prerequisite: None.

BUS 271 Office Management

A study of the planning, organizing, and controlling of office facilities, equipment and personnel. Emphasis placed on the role of the office manager. Prerequisite: None.

BUS 272 Principles of Supervision

A study of the basic responsibilities of the supervisor and his relationship to supervisors, subordinates and associates. Emphasizes methods of supervision and problem solving through case studies.

BUS 1103 Small Business Operations

An introduction to the business world, problems of small business operation, basic business law, business forms and records, financial problems, ordering and inventorying, layout of equipment and offices, methods of improving business, and employer-employee relations. Prerequisite: None.

BUS 1105 Industrial Organizations

Methods, techniques, and practices of modern management in planning, organizing and controlling operations of a manufacturing concern. Introduction to the competitive system and the factors constituting product cost. Prerequisite: None.

BUS 1106 Free Enterprise System

The fundamental principles of economics including the institutions and practices by which people gain a livelihood in a capitalistic economy. A study of the laws of supply and demand and the principles bearing upon production, money exchange, distribution, and consumption in relation to individual enterprise and to society at large. Designed to give the student an understanding of the economic world in which he lives and its relationship to his social world. Prerequisite: None.

CARPENTRY

CAR 1101 Framing, Sheathing and Insulation I

Instruction in the principles and practices of frame construction beginning with the foundation sills and including: floor joist, subfloor, wall studs, ceiling joist, rafters, bridging, bracing, sheathing, and interior wall partition. Layout and construction methods of common types of roofs using standard rafter construction, truss construction, and post and beam construction. Application and selection of sheathing and roofing. Consideration given to the coordination of carpentry work with installation of the mechanical equipment such as: electrical, air conditioning, heating, and plumbing.

CAR 1102 Framing, Sheathing and Insulation II

A continuation of CAR 1101. Prerequisite: CAR 1101.

CAR 1103 Interior and Exterior Trim

Cornice work, siding installation of windows and doors emphasized.

CAR 1105 Finish Work

Exterior and interior trim and finish carpentry to complete the general carpentry program. Materials and methods used in finishing carpentry such as: exterior cornice, door and window trim; interior flooring, door and window facing, moldings, and cornice construction; installation of hardware, construction and installation of built-in equipment and cabinets. Millwork as performed by the general carpenter for building construction.

CAR 1114 Building Codes

Study of applicable sections of city, state, and national codes. Material correlated with all other carpentry courses.

CHEMISTRY

CHM 101 Chemistry

Study of the physical and chemical properties of substances, chemical changes; elements, compounds, gases, chemical combinations; weights and measurements; theory of metals; acids, bases, salts, solvents, solutions, and emulsions. In addition, study of carbohydrates; electrochemistry, electrolytes, and electrolysis in their application of chemistry to industry. Prerequisite: None.

CHM 101F Chemistry

Study of the physical and chemical properties of substances, chemical changes, atoms, molecules, ions, elements, compounds, mixtures, chemical combinations. Weights and measurement stressed, with particular emphasis on the metric system. Acids, bases, salts, solvents, solutions, and emulsions covered, with emphasis on agricultural applications. Corequisite: MAT 110.

DRAFTING

DFT 101 Technical Drafting I

Introduction of the field of drafting as the student begins study of drawing principles and practices for print reading and describing objects in the graphic language. Includes use of drafting equipment, lettering, freehand orthographic and pictorial sketching, geometric construction, orthographic instrument drawing (principle views). Dimensioning practices for "details" and "working drawings" as approved by the American Standards Association. Prerequisite: None.

DFT 102 Technical Drafting II

Includes the application of orthographic projection principles to the more complex drafting problems, primary and secondary auxiliary views, simple and successive revolutions, sections and conventions. Introduces the graphical analysis of space problems. Includes study of problems of practical design elements involving points, lines, planes, and combinations of these elements. Includes intersections and developments with their practical solutions. Includes model solutions with problems where applicable. Prerequisite: DFT 101.

DFT 103 *Technical Drafting III*

A study of the various techniques employed to produce and render isometric and oblique drawings and isometric, dimetric, and trimetric projections. Also includes applications and construction of charts, graphs, and nomographs in engineering and technical data, piping, welding symbols, and methods of representing and specifying. Prerequisite: DFT 102.

DFT 106 *Architectural Drafting I*

A course designed to provide fundamental knowledge of the principles of drafting. Basic skills and techniques of drafting include use of drafting equipment, lettering, freehand orthographic and pictorial sketching, geometric construction, orthographic instrument drawing of principal views. Projection problems dealing with principles of descriptive geometry involving points, lines, planes, and connectors. The principles of isometric, oblique, and perspective drawings introduced. Prerequisite: None.

DFT 107 *Architectural Drafting II*

Development of techniques in architectural lettering, symbols, and their interpretation; dimensioning, freehand and instrument drafting. Drawing of construction details, using appropriate material symbols and connections. Sections, scale details and full-size details prepared from preliminary sketches. Applications of descriptive geometry used in visualization and analytical solutions of the drafting problems involving auxiliary views, intersections and developments. Prerequisite: DFT 106.

DFT 108 *Architectural Drafting III*

An approach in depth to the study of architectural drafting. Development of techniques in architectural lettering, dimensioning, freehand sketching and instrument drawing. Drawings of construction details, using appropriate material symbols and conventions. Working drawings, including plans, elevations, sections, scale details and full-size details to be prepared from preliminary sketches. Prerequisites: DFT 107, AHR 106, CIV 105.

DFT 181F *History of Architecture and Construction*

Covers the evolution of building development from primitive to modern. Concerned with the chronological history of architectural construction and design. The principal periods studied: Pre-history, Ancient Egypt and Mesopotamia, Greece, Rome, Romanesque, Gothic, Renaissance, Early American, and Modern. Prerequisite: None.

DFT 192 *Orientation to Design Drafting*

Designed to acquaint the students with the field and with future employment opportunities. Identifies the role of the draftsman. Prerequisite: None.

DFT 204 *Descriptive Geometry*

Graphic analysis of space problems involving points, lines, planes, connectors, and a combination of these. Practical design problems stressed with analytical verification where applicable. Visualization stressed on every problem. Prerequisites: DFT 103, MAT 103.

DFT 205 Design Drafting I

Introduces basic design in the study of motion, transfer mechanisms as they relate to power trains. Includes principles of design sketching, design drawing, layout drafting, detailing from layouts, production drawings and simplified drafting practices. Types and methods of specifying materials and workmanship integral part of the course. Prerequisites: DFT 204, MAT 103, PHY 102.

DFT 206 Design Drafting II

Research to solve a problem in design by consulting various manuals, periodicals, and through laboratory experiments. A written technical report, preliminary design sketches, layout drawings, detail drawings, assembly, and sub-assembly drawings, pictorial drawings, exploded pictorial assembly, patent drawings, and specifications required as a part of the problem. Prerequisite: DFT 205.

DFT 211 Mechanisms

Mathematical and drafting room solutions of problems involving the principles of machine elements. Study of motions of linkages, velocities and acceleration of points within a link mechanism; layout methods for designing cams, belts, pulley, gears and gear trains. Prerequisites: DFT 201 & 204, MAT 103, MEC 104F.

DFT 212 Jig and Fixture Design

Commercial standards, principles, practices and tools of jig and fixture design. Individual project and design work to acquaint students with the types of jigs and fixtures and their design. Prerequisites: DFT 205, DFT 211.

DFT 220 Architectural Drafting IV

Drawing of structural plans and details as prepared for building construction, including steel, concrete, and timber structural components. Appropriate details and drawings necessary for construction and fabrication of structural members. Reference materials used to provide the draftsman with skills and knowledge in locating data and in using handbooks. Prerequisite: DFT 108.

DFT 220F Design Drafting III

Basic fundamentals of punch and die design. Commercial standards and principles of blanking, piercing, bending and forming dies; including compound and progressive. Electro-mechanical drawings of printed circuits, wiring diagrams, and schematics. Prerequisite: DFT 205.

DFT 221 Architectural Drafting V

Drawing of plans and details as prepared for mechanical equipment such as air conditioning, plumbing and electrical systems by using appropriate symbols and conventions. Consideration given to coordination of mechanical and electrical features with structural and architectural components. Prerequisite: DFT 220.

DFT 221F Product Design

The bringing together of original idea, scientific theory involved, applicable product history, limiting manufacturing boundaries, aesthetic importance, and marketability considered with study given to relative importance and intended design goal. Prerequisites: DFT 211, DFT 220F, MEC 201.

**Courses of
Instruction
Drafting
100**

DFT 222 Architectural Drafting VI

Preparation of the complete set of working drawings for the architectural structure. Preparation of millwork drawings, cabinets and built-in equipment detail drawings, and door, window, and room schedules. Site and landscaping plans studied and drawn. A final assembly of the complete document for construction purposes. Prerequisites: DFT 221, CIV 101, DFT 235.

DFT 233 Office Practice Seminar

A study of the professional relationship of the architectural firm in relation to clients, contractors, suppliers, consultants and other architects. Ethics of the profession as applicable to the draftsman's role in the architectural firm stressed. Prerequisite: None.

DFT 235 Codes, Specifications and Contract Documents

A study of building codes and their effect in relation to specifications and drawings. The purpose and writing of specifications studied along with their legal and practical application to working drawings. Contract documents analyzed and studied for the purpose of client-architect-contractor responsibilities, duties and mutual protection. Prerequisite: DFT 220.

DFT 236 Construction Estimating and Field Inspecting

Interpretation of working drawings for a project; preparation of material and labor quantity surveys from plans and specifications; approximate and detailed estimates of cost. Includes study of materials take-off, labor take-off, sub-contractors' estimates, overhead costs, and bid and contract procedures. Detailed inspection of the construction by comparing finished work to the specifications. Prerequisite: DFT 235.

DFT 260-F Dimensioning and Tolerancing

Standard Drafting Practices per USASI Y 14.5. Includes general dimensioning; general applications of tolerances and limits; tolerance of position and form; advantages of true position tolerancing. Prerequisite: DFT 103.

DFT 1101 Schematics and Diagrams

Interpretation and reading of blueprints. Development of ability to read and interpret blueprints, charts, instruction and service manuals, and wiring diagrams. Information on the basic principles of lines, views, dimensioning procedures, and notes. Prerequisite: None.

DFT 1104 Blueprint Reading: Mechanical I

Interpretation and reading of blueprints. Information on the basic principles of the blueprint; lines, views, dimensioning procedures and notes. Prerequisite: None.

DFT 1105 Blueprint Reading: Mechanical II

Further practice in interpretation of blueprints as they are used in industry; study of prints supplied by industry; making plans of operations; introduction to drafting room procedures; sketching as a means of passing on ideas, information and processes. Prerequisite: DFT 1104.

DFT 1106 Blueprint Reading: Mechanical III

Advanced blueprint reading and sketching as related to detail and assembly

drawings used in machine shops. The interpretation of drawings of complex parts and mechanisms for features of fabrication, construction and assembly. Prerequisite: DFT 1105.

DFT 1110 Blueprint Reading

Principles of interpreting blueprints and trade specifications common to the building trades. Development of proficiency in making three view and pictorial sketches. Prerequisite: None.

DFT 1111 Blueprint Reading

Principles of interpreting blueprints and specifications common to the building trades. Practice in reading details for grades, foundations, floor plans, elevations, walls, doors and windows, and roofs of buildings. Development of proficiency in making three view and pictorial sketches. Estimating from blueprints. Prerequisite: DFT 1110 or equivalent.

DFT 1111F Drafting I: Plumbing

Review of blueprint reading, instruction in the selection, use and care of basic drafting instruments. Single stroke freehand lettering. Orthographic projection consisting of instruments and freehand sketching. Study of dimensioning and note practices with reference to the American Standard Association practices. Includes methods of reproducing drawings; detail, assembly, layout and pictorial drawings; specifications, parts list and bill of materials. Drawings of piping includes: metal pipe, tubing, plastic pipe, pipe joints, tube joints, pipe fittings, valves, specification of fittings, pipe threads, specification of threads, scale layout (two line drawing) and diagrammatic (single line) drawings. (Diagrammatic methods include orthographic, developed and pictorial.) Standard symbols, dimensioning of a pipe drawing, and pipe hangers and supports. Students work to include various problems of piping layouts to scale. (Note—school will furnish drafting equipment.)

DFT 1113 Blueprint Reading: Electrical

Interpretation of schematics, diagrams and blueprints applicable to electrical installations with emphasis on electrical plans for domestic and commercial buildings. Sketching schematics, diagrams, and electrical plans for electrical installations using appropriate symbols and notes according to the applicable codes. Prerequisite: DFT 1110.

DFT 1121 Drafting I

An introduction to drafting and the study of drafting practices. Instruction in the selection, use and care of instruments, singlestroke lettering, applied geometry, freehand sketching consisting of orthographic and pictorial drawings. Emphasis on orthographic projection, reading and instrument drawing of principal views, single auxiliary views (primary), and double (oblique) auxiliary views. Study of dimensioning and note practices with reference to the American Standards Association practices. Methods of reproducing drawings included at the appropriate time. Prerequisite: None.

DFT 1122 Drafting II

Study of simple and successive revolutions and their applications to practical problems. Study of sections and conventions and drawing of both detail and

assembly sections. Study of intersections and developments by relating the drawing to the sheet metal trades. Models of the assigned drawings to be made from construction paper, cardboard, or similar materials as a proof of the solution to the problems drawn.

Study of methods of drawing and projecting axonometric, oblique, and perspective drawings with emphasis on the practical applications of pictorial drawings. Introduction of various methods of shading and performance of dimensioning and sectioning of oblique and axonometric pictorials. Prerequisite: DFT 1121.

DFT 1125 Descriptive Geometry

Graphical analysis of space problems. Problems to deal with practical design elements involving points, lines, planes, connectors, and a combination of these. Includes problems dealing with solid geometry theorems. Analytical as well as graphical solution wherever applicable. Prerequisite: DFT 1121.

DFT 1131 Mechanical Drafting

An introduction to mechanical drafting beginning with problems concerning precision and limit dimensioning. Methods of fastening materials, and fasteners: keys, rivets, springs, and welding. Study and use of symbols in drawings. Principles of design introduced with the study of basic mechanisms of motion transfer: gears, cams, power trains, pulleys, belting and methods of specifying and calculating dimensions. Drawings involving these mechanisms. Prerequisite: DFT 1122.

DFT 1132 Mechanical Drafting

Principles of design sketching, design drawings, layout drafting, detailing from layout drawings, production drawings and simplified drafting practices. Forging and casting drawings from layouts. Emphasizes specifications, parts list and bill of materials. Development of a complete set of working drawings of a tool, jig, fixture or simple machine. Teaches principles of design, handbook and manual usage. Prerequisite: DFT 1131.

DFT 1141 Drafting III

An introduction to architectural drafting. Further development of techniques in lettering, dimensioning, freehand sketching and instrument drawing. Drawings of construction details, using appropriate material symbols and conventions. Working drawings, including plans, elevations, sections, scale details and full-size details prepared from preliminary sketches. Prerequisite: DFT 1122.

DFT 1142 Drafting IV

Individual and group participation in the preparation of complete working drawings for a complex architectural structure. Study of drafting room organization and relationships of personnel within the architectural office. Prerequisites: DFT 1141, DFT 1143, DFT 1144.

DFT 1143 Building Mechanical Equipment

General study of heating, air conditioning, plumbing and electrical equipment, materials and symbols. Building code requirements pertaining to residential and commercial structures. Reading and interpretation of working drawings by mechanical engineers. Prerequisite: DFT 1122.

DFT 1144 Building Materials and Methods

Study of materials used in the construction of architectural structures. Their economic values and limitations affected by locality, budget and codes. Field trips to construction sites and study of manufacturer's specifications for materials. Standard sizes of structural materials and modular construction techniques. Prerequisite: None.

*Courses of
Instruction
Diesel*
103

DIESEL

DSL 1101 Diesel Engines

Development of a general understanding of the basic principles involved in the construction and operation of diesel engines; also, thermodynamic concept of cycles related to the diesel engines. An elementary study of performance characteristics of diesel engines and basic design in fuel systems. Work includes such overhaul jobs as grinding valves, gaging cylinder wear, removing and replacing cylinder liners, boring cylinders, replacing and adjusting bearings, gaging and installing piston rings. Prerequisite: None.

DSL 1102 Diesel Electrical and Fuel Systems

A course designed to familiarize the student with the constructional and operational features of the electrical units which are used on preheating, starting and generating systems of diesel engines. Student activities in reconditioning techniques of generators, starters, and alternators. Use of test equipment for measurement, adjustment and trouble shooting included. Prerequisite: None.

DSL 1103 Diesel Fuel Injection

Theory related to a study of the variations in design and the principles of operation of fuel injection systems used on the automotive diesel engine. Practice work designed to familiarize the student with the operation, maintenance and testing of the units which comprise the fuel injection systems of diesel engines. Teaches student to maintain, repair, and test such units as fuel pumps, transfer pumps, spray nozzles and unit injectors. Prerequisite: None.

DSL 1104 Power Trains, Chassis & Suspension Systems

Instruction given in the construction features and operating principles of truck chassis, suspension, steering and brake systems. Teaches student to operate equipment to correct and adjust abnormalities in suspension and steering. Familiarization with the variations in design and functioning of brake systems as used by heavy duty trucks. Study of the construction and operation of such component parts as clutches, transmissions, propeller shafts and rear axles. Prerequisite: None.

DSL 1105 Diesel Servicing

A course intended for those who desire to become proficient in the field of diesel diagnosis and repair. Vehicles first given a complete checkout to determine the trouble, and the trouble corrected on the basis of the diagnostic report. Training provided on all major mechanical and electrical units. Preventive maintenance and servicing techniques taught as recommended by manufacturers. Prerequisites: DSL 1101, 1102, 1103, 1104.

ECONOMICS

ECO 102 Economics I

A study of macroeconomics, which treats the economy as a whole. Included is a study of Gross National Product, full employment, business fluctuations, economic growth, and the expansion of bank credit. Prerequisite: None.

ECO 104 Economics II

A further study into the function of the United States' economy as well as a look into world economics. A study of prices, competition, nonprice competition and income distribution in the United States. Includes a study of international trade and payments, economic development, and comparative economic systems. Prerequisite: ECO 102.

ELECTRONIC DATA PROCESSING (BUSINESS)

EDP 101F Principles of Business Data Processing

An introductory course designed to acquaint the student with the field of data processing. Includes a historical review of data processing, basic terminology, and fundamental concepts of data processing and programming. Laboratory exercises devoted to familiarizing the student with basic data processing equipment. Prerequisite: None.

EDP 102F Logic and Decision Making

An introduction to symbolic logic and the application of logic to decision making and programming. Includes simple and compound logic statements, implications and equivalences, and flowcharting techniques. Laboratory exercises involving the development of truth tables and the translation of basic problems into flowcharts. Prerequisite: None.

EDP 105F Assembly Language Programming I

An introduction to the study of assembly language programming. Includes Assembly Language specifications, operations, and rules for writing source programs. Laboratory exercises devoted to developing program logic and writing Assembly Language programs to solve sample problems. Prerequisites: EDP 101F, EDP 102F. Corequisite: MAT 111F.

EDP 106F Assembly Language Programming II

A continuation of the study of Assembly Language programming. Covers more complex features of the language and more advanced programming techniques. Laboratory assignments devoted to developing program logic and writing assembly language programs to solve sample problems. Prerequisite: EDP 105F.

EDP 110F COBOL Programming I

An introductory course in compiler language programming utilizing COBOL. Includes COBOL concepts, components, structure, and basic instructions. Laboratory assignments stressing developing of program logic and writing COBOL programs to solve sample problems. Prerequisites: EDP 101F, EDP 102F. Prerequisite or Corequisite: MAT 111F.

EDP 111F COBOL Programming II

A continuation of the study of COBOL. Includes more complex COBOL instructions and techniques. Laboratory exercises involving developing program logic and writing programs to solve simulated industrial and business problems. Prerequisite: EDP 110F.

EDP 112F COBOL Programming III

A continuation of the study of COBOL emphasizing the more complex features of the language, efficient programming techniques, and debugging techniques. Laboratory exercises involving developing program logic and writing programs to solve simulated business and industrial problems. Prerequisite: EDP 111F.

EDP 201F Computer Systems

A study of computer systems involving such topics as job scheduling, file devices, file organization, operating systems, job control language, and multi-programming. Prerequisite: EDP 105F, EDP 110F.

EDP 205F Systems Design and Analysis I

The first of two courses designed to give the student training in systems design and analysis. Emphasis in both classroom and laboratory work on problem definition, file organization, effective retrieval and manipulation of information, and systems design techniques. Prerequisite: EDP 111F.

EDP 206F Systems Design and Analysis II

A continuation of Systems Design and Analysis I. Emphasizes the application of principles studied to data processing systems in the business enterprise. Prerequisite: EDP 205F.

EDP 210F Language Survey

A survey and comparative study of various computer languages in current use. Stresses the evaluation of languages in terms of utilization in various business applications. Prerequisite: EDP 101F.

EDP 220F Research Project

Individual assignments of a carefully selected project. Designed to give the student an opportunity to initiate and carry out a project. Places the responsibility upon the student to solve a significant problem with a minimum of assistance from the instructors. Prerequisite: EDP 206F.

EDP 230F Introduction to FORTRAN

An introduction to FORTRAN, a problem-oriented language. Laboratory exercises devoted to the developing of program logic and writing programs using FORTRAN. Prerequisites: EDP 101F, EDP 102F, MAT 112F.

EDP 231F Linear Programming

Lecture and case problems encompassing the use of mathematical programming with computers to increase industrial efficiency. Basic rules of linear programming and related topics presented with laboratory assignments to implement the theoretical aspects. Prerequisites: EDP 111F, EDP 230F.

EDP 240F PL/I Programming I

An introduction to PL/I programming. Includes basic PL/I concepts, components, structure, and instructions. Laboratory assignments devoted to develop-

ing program logic and writing programs using PL/1. Prerequisites: EDP 101F, EDP 102F.

EDP 241F PL/1 Programming II

A continuation of the study of PL/1. Includes more complex PL/1 instructions and techniques. Laboratory exercises involving development of program logic and writing of PL/1 programs to solve simulated industrial and business problems. Prerequisite: EDP 240F.

EDP 250F RPG Programming

An introduction to RPG programming. Laboratory exercises devoted to developing program logic and writing programs in RPG to solve simulated business problems. Prerequisites: EDP 101F, EDP 102F.

EDP 260F Functional Wiring Principles

A course dealing with the utilization of unit record equipment. The fundamentals of wiring necessary to perform basic machine functions of printing, reproducing, comparing, and selection. Laboratory exercises including normal business problems employing unit record equipment. Prerequisite: None.

ELECTRICITY

ELC 101 Fundamentals of Electricity

Elementary principles of electricity including basic electric units, Ohm's law, Kirchhoff's law, network theorems, magnetics, basic electrical measuring instruments, inductance, capacitance, sine wave analysis, and nonresonant resistive, inductive and capacitive networks. Prerequisite: None.

ELC 102 Fundamentals of Electricity II

Series and parallel resonant-circuits analysis, resonant and non-resonant transformer analysis, basic diode power supply analysis, introduction to non-linear resistive control devices, and introduction to electromechanical devices. Prerequisite: ELC 101.

ELC 205 Applied Electricity

Basic theories of electricity, types of electricity, methods of production, transmission and transforming of electricity. Major topics covered include voltage, amperage, resistance, horsepower, wattage, transformers, DC and AC motors and generators. Prerequisite: MAT 102.

ELC 1110 Applied Electricity I

A detailed study of basic DC circuits involving the structure of matter and electron theory as related to common conductors. Investigates the relationship of current, voltage, resistance, and power in the series, parallel and combination circuits. Also study of DC sources and methods of DC generation as well as the electromagnetic effect. Prerequisite: None.

ELC 1111 Applied Electricity II

Fundamental concepts of alternating current including a study of capacitive and inductive effects and resulting phase angle. A study of power, current,

voltage and impedance in the AC circuit as applied to AC power machinery and control devices relating to heating and refrigeration systems. Prerequisite: ELC 110.

ELC 1112 Direct and Alternating Current

A study of the electrical structure of matter and electron theory, the relationship between voltage, current, and resistance in series, parallel, and series-parallel circuits. An analysis of direct current circuits by Ohm's Law and Kirchhoff's Law. A study of the sources of direct current voltage potentials. Fundamental concepts of alternating current flow, reactance, impedance, phase angle, power, and resonance. Analysis of alternating current circuits. Prerequisite: None.

ELC 1113 Alternating Current and Direct Current Machines and Controls

Provides fundamental concepts in single and polyphase alternating current circuits, voltages, currents, power measurements, transformers, and motors. Instruction in the use of electrical test instruments in circuit analysis. The basic concepts of AC and DC machines and simple system controls. An introduction to the type control used in small appliances such as: thermostats, times, or sequencing switches. Prerequisites: ELC 1112, MAT 1115.

ELC 1120 Direct and Alternating Current

A study of the structure of matter and the electron theory, the relationship between voltage, current and resistance in series, parallel and series-parallel circuits. Analysis of direct current circuits by Ohm's law and Kirchhoff's law; sources of direct current potentials. Fundamental concepts of alternating current flow; a study of reactance, impedance, phase angle, power and resonance and alternating current circuit analysis. Prerequisite: None.

ELC 1124 Residential Wiring

Provides instruction and application in the fundamentals of blueprint reading, planning, layout, and installation of wiring in residential applications such as: services, switchboards, lighting, fusing, wire sizes, branch circuits, conduits, National Electrical Code regulations in actual building mock-ups. Prerequisites: ELC 1113, DFT 1110.

ELC 1125 Commercial and Industrial Wiring

Layout, planning, and installation of wiring systems in commercial and industrial complexes, with emphasis upon blueprint reading and symbols, the related National Electrical Codes, and the application of the fundamentals to practical experience in wiring, conduit preparation, and installation of simple systems. Prerequisites: ELN 1118, ELC 1124.

ELECTRONICS

ELN 105 Control Devices

The study of the physical and electrical characteristics of semiconductor devices, including diodes and transistors. Biasing techniques, stability, and basic application to rectification and amplification processes are covered. Prerequisite: ELC 102.

ELN 205 Semiconductor Applications I

A study in depth of the analysis and design of transistor circuits pertaining to audio amplifiers and oscillators. Network theorems and equivalent circuits used extensively. H & T equivalent parameters used in design procedures. Prerequisite: ELN 105.

ELN 210 Semiconductor Applications II

A continuation of ELN 205 which covers the characteristics and basic applications of Field Effect Transistors. In addition, special circuits which include operational amplifiers, differential amplifiers, constant current, and level shifter leading toward integrated circuits. Prerequisite: ELN 205.

ELN 220 Electronic Systems Analysis

A block diagram course investigating numerous electronic systems. Arranging of modules or blocks of various circuits already studied in various manners to produce complex electronic systems. Explanation of systems and reduction of systems to functions and then to block diagrams. Digital techniques as applied to systems emphasized. Prerequisite: ELN 240.

ELN 224F Pulse Circuits and Wave Shaping

Study of wave form analysis, basic networks including integrators and differentiators, multivibrators, blocking oscillators, sawtooth generators, and other nonsinusoidal circuits. Basic applications emphasized. Prerequisites: MAT 103, ELN 205.

ELN 235 Industrial Electronics

Broad introduction to the use of industrial electro-mechanical and electronic circuits and mechanisms. Provides a basic understanding of various electrical transducers related to pressure, temperature, light, sound, and humidity; and how they can be applied to their associated circuitry with emphasis on applications. Prerequisite: ELN 205.

ELN 240 Digital Fundamentals

An explanation into the basic digital techniques used in electronic equipment. Includes numbering systems, Boolean algebra, logic circuits, arithmetic circuits, counters and read-out devices. Prerequisites: ELN 205, ELN 224F.

ELN 245 Electronic Design Project

Class time devoted to research and design problems, prototype development, and electronic equipment packaging. Lab time devoted to the design and prototype development of some electronic project elected by the student. Prerequisite: ELN 210.

ELN 1118 Industrial Electronics

Basic theory, operating characteristics, and application of vacuum tubes such as: diodes, triodes, tetrodes, pentodes, and gaseous control tubes. An introduction to amplifiers using triodes, power supplies using diodes, and other basic applications. Prerequisite: ELC 1113.

ELN 1119 Industrial Electronics

Basic industrial electronic systems such as: motor controls, alarm systems, heating systems and controls, magnetic amplifier controls, welding control systems

using thyatron tubes, and other basic types of systems commonly found in most industries. Prerequisite: ELN 1118.

ELN 1121 Vacuum Tubes and Circuits

A course in vacuum tube theory. Areas covered in lecture and laboratory: construction and operation of diodes, triodes, tetrodes, pentodes, and other tube types. Analysis of basic circuits such as amplifiers, power supplies, and oscillators. Study of the superheterodyne receiver with an introduction to basic vacuum tube troubleshooting procedures. Prerequisite: ELC 1120.

ELN 1122 Transistor Theory and Circuits

A course in semiconductor theory. Devices to be studied: the diode, transistor, FET, Zener diode, SCR, UJT, and integrated circuits. Circuits studied in lecture and laboratory sessions: power supplies, tuned amplifiers, audio amplifiers, oscillators and detectors. An introduction to systems troubleshooting included. Prerequisite: ELC 1120.

ELN 1123 Black and White Television Servicing

A study of black and white television receivers. Detailed study of all circuits of the TV receiver in classroom and laboratory sessions. Supervised servicing practice to develop skills in using test equipment to repair and maintain television receivers. Prerequisites: ELN 1121, ELN 1122.

ELN 1124 Color Television Servicing

Theory of operation of the television circuits peculiar to color receivers. Includes composite color telecasting signals, color receiver detectors, kinescopes, convergence, and matrix networks. Theory of operations and practical test bench techniques including troubleshooting, alignment, and convergence. Prerequisite: ELN 1123.

ENGLISH

ENG 010 Individualized English Grammar

This review programmed English is designed to reinforce the skills of those students who are weak in English from either a lack of proper exposure or lengthy separation from the study of grammar.

ENG 011 Pre-Technical Communication Skills I

First of a series of two courses designed to assist the student in improving his written and oral expression. Students will be encouraged to speak and listen in a variety of groups and situations. The fundamentals of grammar, punctuation, spelling, vocabulary, sentence and paragraph structure constitute the content of the course. Major emphasis is on practice and analysis of written expression.

ENG 012 Pre-Technical Communication Skills II

Second of a series of two courses designed to assist the student in improving his written and oral expression. Oral and aural skill building will be continued. Emphasis will be placed on content in writing. A belief in his ability to communicate in writing, as well as a development of a sense of style, is a primary

objective. Students will be encouraged to integrate their reading and writing skills with the technical courses which they are pursuing.

ENG 020 Basic Reading Skills and Vocabulary

This course is designed to develop word recognition, word attack, vocabulary and dictionary skills.

ENG 100F Oral Communications

A study of basic concepts and principles of oral communications to enable the student to communicate with others. Emphasis is placed on the speaker's attitude, improving diction, voice, and the application of particular techniques of theory to correct speaking habits and to produce effective oral presentation. Particular attention is given to conducting meetings, conferences, and interviews. Prerequisite: ENG 103.

ENG 101 Introduction to Written Communication

The first writing course. Includes an introductory review of grammar terminology. Emphasizes correct spelling and punctuation. Uses sentence as basic unit of instruction. Emphasizes good sentence structure through appropriate student writing practice. Prerequisite: Satisfactory score on the English placement test or a passing grade in English 010.

ENG 102 Composition

Intermediate writing course. Continued emphasis on correct spelling and punctuation. Uses paragraph as basic unit of instruction. Stresses diction, unity, coherence, and emphasis. Emphasizes construction of, rather than analysis of, paragraphs in writing. Prerequisite: ENG 101.

ENG 103 Report Writing

Basic fundamentals of English gained in ENG 101 and ENG 102 serve as a background for this study of the techniques of modern report writing. Organization, style, form, and the use of graphic devices are emphasized in the development of a report. The basic unit of instruction is the technical report, and each student prepares a full-length report related to his curriculum field of study. Prerequisite: ENG 102.

ENG 206 Business Communications

Develops skills in techniques in writing business communications. Emphasis placed on writing action-getting sales letters and prospectuses. Business reports, summaries of business conferences, letters involving credit, collections, adjustments, complaints, orders, acknowledgements, remittances, and inquiries. Prerequisite: ENG 102.

ENG 1101 Reading Improvement

Introductory English course designed to improve the student's ability to read rapidly and accurately. Use of the tachistoscope and controlled reader for class drill to broaden the span of recognition, to increase eye coordination and word group recognition, and to train for comprehension in larger units. Correct spelling and applicable grammatical concepts emphasized. Prerequisite: None.

ENG 1102 Communication Skills

Designed to promote effective communication through correct language usage in speaking and writing. Prerequisite: ENG 1101.

ENG 1112 Communication

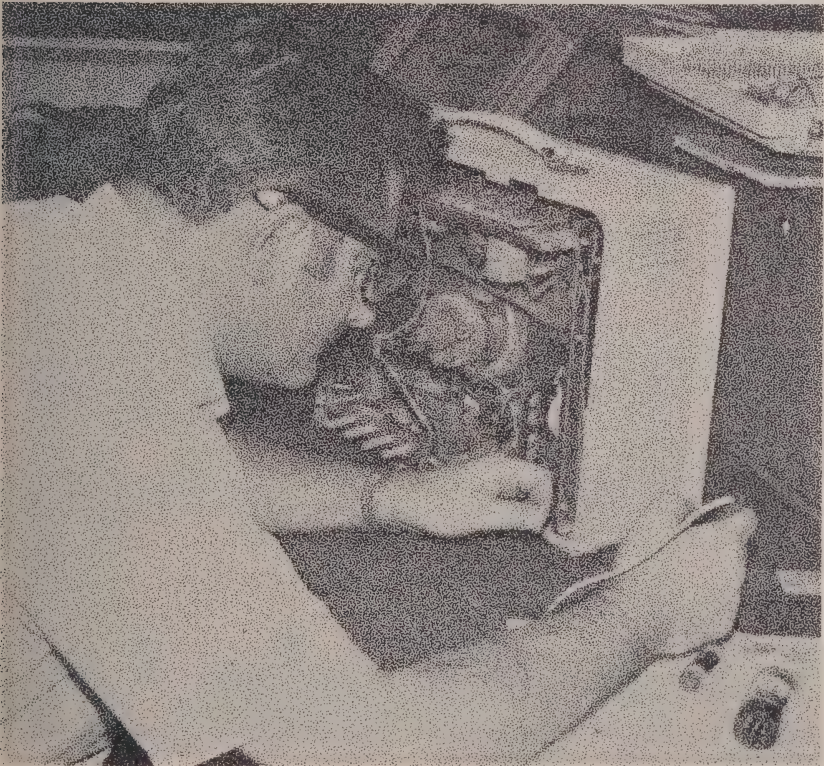
Continuation of emphasis on correct grammar and spelling begun in ENG 1101. Oral communication, as involved in speech, group discussion, and conference leadership. Discussion of and practice in examples of modern writing requirements such as business letters, job applications, and short reports. Prerequisite: ENG 1101.

*Courses of
Instruction
Heating*
111

HEATING

HET 1101 Heating Systems

Oil burner fundamentals. Operation, control and service of oil burner systems. Gas heating devices. Operation, control and service of gas burner systems. Installation and servicing electric heating elements and their controls. Principle of operation of hot water and low pressure systems. Installation and servicing of piping, controls, pumps and coils. Prerequisite: None.



INDUSTRIAL

Math *ISC 201 Industrial Organization and Management*

112 Organizational structure for industrial management, operational and financial activities, including accounting, budgeting, banking, credit and industrial risk, forecasting of markets, selection and layout of physical facilities; selection, training and supervision of personnel as found in typical industrial organizations. Prerequisite: None.

ISC 202 Quality Control

Principles and techniques of quality control and cost saving. Organization and procedure for efficient quality control. Functions, responsibilities, structures, costs, reports, records, personnel and vendor-customer relationships in quality control. Sampling inspections, process control, and tests for significance. Prerequisite: None.

ISC 203 Motion and Time Study

Studies include the following: operations analysis, types of process charts, break-even analysis, micromotion analysis, work measurement techniques, predetermined time systems (MTM) and development of standard data for incentive systems. Prerequisite: None.

ISC 209 Plant Layout

A practical study of factory planning with emphasis on the most efficient arrangements of work areas to achieve lower manufacturing costs. Layouts for small and medium-sized plants, layout fundamentals, selection of production equipment and materials handling equipment. Effective management of men, money and materials in a manufacturing operation. Prerequisites: MEC 201, DFT 102.

MATHEMATICS

MAT 001 Structure of Arithmetic

This course is designed to help the student gain and improve his computational skills. Instruction is in the basic operations of arithmetic to include addition, subtraction, multiplication, division, fractions, decimals, and percentage.

MAT 002 Pre-Business Mathematics

This course is a review and reinforcement of basic mathematical skills used in business mathematics.

MAT 003 Algebra

A course designed to provide the student with the basic understandings and manipulative skills of elementary algebra.

MAT 004 Pre-Technical Mathematics

A remedial course for pre-engineering technology students having a deficiency in algebra and geometry. Basic concepts of algebra, trigonometry, and geometry are covered. It includes the properties of the real number system, equations, functions, variables, and exponents.

MAT 005 Geometry

A course designed to provide the student with the basic understandings and manipulative skills of elementary geometry.

MAT 101 Technical Mathematics I

Real number system developed as an extension of natural numbers. Introduction to number systems of various bases, fundamental algebraic operations, the rectangular coordinate system, as well as fundamental trigonometric concepts and operations. Stresses the application of these principles to practical problems. Prerequisite: Satisfactory score on mathematics placement test or passing grade in Pre-Technical Mathematics.

MAT 102 Technical Mathematics II

A continuation of MAT 101. In depth study of advanced algebraic and trigonometric topics including quadratics, logarithms, determinants, progressions, the binomial expansion, complex numbers, solution of oblique triangles and graphs of the trigonometric functions. Prerequisite: MAT 101.

MAT 103 Technical Mathematics III

Introduction to the fundamental concepts of analytical geometry, differential and integral calculus. Includes graphing techniques, geometric and algebraic interpretation of the derivative, differentials, rate of change, the integral and basic integration techniques. Stresses applications of these concepts to practical situations. Prerequisite: MAT 102.

MAT 110 Business Mathematics

Emphasis on the fundamental operations and their application to business problems. Topics covered include sales records, inventories, commissions, markup, depreciation, and interest. Prerequisite: None.

MAT 111F EDP Mathematics I

A course of study in basic mathematical concepts which includes numbering systems and basic modern mathematics. All topics stressed within the framework of application to data processing. Prerequisite: None.

MAT 112F EDP Mathematics II

A continuation of EDP Mathematics I. Includes equations, linear and non-linear functions, simultaneous equations, and matrices. Stresses practical application of data processing problems. Prerequisite: MAT 111F.

MAT 160F Engineering Computations

Includes use of sliderule, calculators and digital computers. Engineering problems handled by use of algebraic, trigonometric and geometric principles, along with a basic programming language. Prerequisite: MAT 102.

MAT 201 Technical Mathematics IV

A continuation of MAT 103. Considers more advanced concepts of differentiation and integration. Includes graphs and derivatives of the trigonometric functions, exponential and logarithmic differentiation and integration, advanced integration techniques, polar equations, parametric equations, and Fourier series. Prerequisite: MAT 103.

Courses of Instruction **Math** **114** **MAT 208** *Calculus for Electronics*
Derivation of mathematical equations applied to Electronics. Average, RMS, harmonic content of sinusoidal and complex waveforms; transfer functions as applied to coupling networks, filters, and attenuators. Prerequisite: MAT 201.

MAT 1101 *Fundamentals of Mathematics*

Practical number theory. Analysis of basic operations: addition, subtraction, multiplication and division. Fractions, decimals, powers and roots, percentages, ratio and proportion. Plane and solid geometric figures used in industry; measurement of surfaces and volumes. Introduction to algebra used in trades. Prerequisite: None.

MAT 1102 *Algebra*

Basic concepts and operations of algebra: historical background of our base-10 number system; algebraic operations: addition, subtraction, multiplication and division; fractions, letter representation, grouping, factoring, ratio and proportions, variation, graphical and algebraic solution of first degree equations; solution of simultaneous equations by: addition and subtraction, substitution, graphing; exponents, logarithms, tables and interpolation. Prerequisite: None.

MAT 1103 *Geometry*

Fundamental properties and definitions; plane and solid geometric figures, selected general theorems, geometry construction of lines, angles and plane figures. Dihedral angles, areas of plane figures, volumes of solids. Geometric principles applied to shop operations. Prerequisite: None.

MAT 1104 *Trigonometry*

Trigonometric ratios; solving problems with right triangles, using tables, and interpolating; solution of oblique triangles using law of sines and law of cosines; graphs of the trigonometric functions; inverse functions, trigonometric equations. All topics applied to practical problems. Prerequisites: MAT 1102, MAT 1103.

MAT 1113 *Carpenter's Mathematics and Estimating*

Practical problems which the carpenter must frequently solve. Emphasis upon any weaknesses in the basic mathematical operations with instruction and practice of the needed operation. Problems involving common fractions, decimals, powers and roots, percentages, and ratio and proportion.

MAT 1114 *Carpenter's Mathematics and Estimating*

A continuation of MAT 1113 including problems dealing with plane and solid geometric figures and the measurement of surfaces and volumes. An introduction to algebra used in the trade. Basic estimating practices for building materials. Prerequisite: MAT 1113 or equivalent.

MAT 1115 *Elements of Mathematics*

Main topics include: review of arithmetic, powers of ten, elementary algebra, trigonometry, vectors, and logarithms. Prerequisite: None.

MAT 1116F *Electrical Mathematics*

A study of fundamental concepts of algebra; basic operations of addition, subtraction, multiplication, and division; solution of first order equations, use

of letters and signs, grouping, factoring, exponents, ratios, and proportions; solution of equations, algebraically and graphically; a study of logarithms and use of tables; and introduction to trigonometric functions and their application to right angles; and a study of vectors for use in alternating current. Prerequisite: None.

MAT 1117F Plumber's Arithmetic

Composed primarily of practical problems which the plumber must frequently solve. Emphasis upon instruction and practice in areas of deficiency in basic mathematics. Use of problems involving common fractions, decimals, and percentages. Prerequisite: None.

MACHINE AND MECHANICAL

MEC 001 Introduction to Engineering Technology

A course designed to expose the student to the fields of engineering and the various functions that exist, i.e. research, development, design, production, construction and sales and to give him exposure to his professional environment. The role of the engineering technician is identified and future employment possibilities are investigated.

MEC 101 Machine Processes I

An introductory course designed to acquaint the student with basic hand tools, safety procedures and machine processes in our modern industry. Will include a study of measuring instruments, characteristics of metals and cutting tools. Will familiarize student with the lathe family of machine tools by performing selected operations such as turning, facing, threading, drilling, boring, and reaming. Prerequisite: None.

MEC 102 Machine Processes II

Advanced operations on lathe, drilling, boring, and reaming machines. Study of milling machines and cutters, shapers and slotter, planers, grinding and finishing machines. Prerequisite: MEC 101.

MEC 104F Applied Mechanics

Concepts and principles of statics. Parallel, concurrent and non-concurrent force systems in coplanar and noncoplanar situations. Concepts of centroids and center of gravity, moments of inertia. Prerequisites: MAT 103, PHY 102.

MEC 192 Orientation to Manufacturing Engineering Technology

Designed to acquaint the students with the field and with future employment opportunities. The role of the manufacturing engineering technician identified. Prerequisite: None.

MEC 201 Manufacturing Processes I

Includes gear design and the processes of gear manufacturing. Includes study and use of numerical control machining with manual programming. Study of punching and forming, chipless machining, and casting, basic materials and semi-conductor work. Prerequisite: MEC 102.

MEC 202 *Manufacturing Processes II*

Emphasizes newer concepts of work handling and automatic machining processes. Concentrated study of production methods in manufacturing. Prerequisite: MEC 201.

MEC 203 *Welding Processes*

A basic study of all popular welding processes. Includes basic gas welding, basic arc, M.I.G., T.I.G., automatic flame cutting and process, application. Operation of each process to a limited extent required. Prerequisite: None.

MEC 205 *Strength of Materials*

Study of principles and analysis of stresses which occur within machine and structure elements subjected to various types of loads such as static, impact, varying and dynamic. Analyses of these stresses made as applied to thin-walled cylinders and spheres, riveted and welded joints, beams, columns and machine components. Prerequisites: MEC 104F, MAT 103.

MEC 210 *Ferrous Metallurgy*

Introductory course in metallurgy, basic study of the properties of metals and alloys. Analysis of the structure of metals and alloys, atomic structure, nuclear structure, and nuclear reactions. Solid (crystalline) structures, methods of designating crystal planes, liquid and vapor phases, phase diagrams, and alloy systems. Prerequisite: PHY 102.

MEC 211 *Non-Ferrous Metallurgy and Heat Treatment*

A study including the properties of metals and alloys, the reactions of metals, diffusion, carburizing, metal bonding and homogenization, recrystallization and grain growth, age hardening, nitriding, internal oxidation, heat treatment of steel, laboratory experiments and demonstrations. Prerequisite: MEC 210.

MEC 230 *Plant Services*

The major areas covered include air conditioning theory and design, air compressors, boilers and steam piping systems, water treatment, waste treatment and pollution control, and analysis of fuel systems. Prerequisite: None.

MEC 235 *Fluid Power*

The basic theories of hydraulic and pneumatic systems. Combinations of systems in various circuits. Basic designs and functions of circuits and motors, controls, electrohydraulic servomechanisms, plumbing, filtration, accumulators and reservoirs. Prerequisite: PHY 102.

MEC 237 *Control Systems*

Basic principles of electrical and electronic control systems as related to industrial application. Basic design and functions of circuits, motors, transducers, and servomechanisms. Review of the National Electrical Code. Prerequisites: ELC 205, MAT 103.

MEC 1101 *Machine Shop Theory and Practice I*

An introduction to the machinist trade and the potential it holds for craftsmen. Deals primarily with the identification, care and use of basic hand tools and precision measuring instruments. Elementary layout procedures and processes of lathe, drill press, grinding (off-hand) and milling machines introduced both in theory and practice. Prerequisite: None.

MEC 1102 Machine Shop Theory and Practice

Advanced operations in layout tools and procedures, power sawing, drill press, surface grinder, milling machine shaper. Will be introduced to the basic operations of the cylindrical grinder and select projects encompassing all the operations, tools and procedures thus far used and those to be stressed throughout the course. Prerequisite: MEC 1101.

MEC 1103 Machine Shop Theory and Practice

Advanced work on the engine lathe, turning, boring and threading machines, grinders, milling machine and shaper. Introduction to basic indexing and terminology with additional processes on calculating, cutting and measuring of spur, helical, and worm gears and wheels. Use of precision tools and measuring instruments such as vernier height gages, protractors, comparators, etc. Basic exercises given on the turret lathe and on the tool and cutter grinder. Prerequisite: MEC 1102.

MEC 1104 Machine Shop Theory and Practice

Development of class projects using previously learned procedures in planning, blueprint reading, machine operations, final assembly and inspection. Additional processes on the turret lathe, tool and cutter grinder, cylindrical and surface grinder, advanced milling machine operations, etc. Special procedures and operations, processes and equipment, observing safety procedures faithfully and establishing of good work habits and attitudes acceptable to the industry. Prerequisite: MEC 1103.

MEC 1112 Machine Shop Processes

To acquaint the student with the procedures of layout work and the correct use of hand and machine tools. Experiences in the basic fundamentals of drill press and lathe operations; hand grinding of drill bits and lathe tools; set-up work applied to the trade. Prerequisite: None.

MEC 1113 Shop Processes

Study of practices used in metalworking shops: introduction to how materials can be utilized, and to the processes of shaping, forming and fabricating of metals. Demonstration of the metalworking lathes, grinders, drills, milling machines, shapers, planers, saws, broachers, gear cutting machines and finishing machines. A study of the capabilities of these machines. Prerequisite: None.

MEC 1114 Shop Processes

Comparison of the unit-production and mass-production systems. Casting, forging and allied processes, welding and sheet metal working processes demonstrated and discussed. Mass-production methods studied in relationship to precision dimensional control. Prerequisite: MEC 1113.

MEC 1115 Treatment of Ferrous Metals

Investigates the properties of ferrous metals and tests to determine their uses. Will include some chemical metallurgy to provide a background for the understanding of the physical changes and causes of these changes in metals. Topics for study: physical metallurgy of ferrous metals, producing iron and steel, theory of alloys, shaping and forming, heat treatments for steel, surface treatments, alloy of special steel, classification of steels, and cast iron. Prerequisite: None.

**Courses of
Instruction
Physics
118**

MEC 1116 Treatment of Non-Ferrous Metals

Continuation of the study of physical metallurgy. Study of the non-ferrous metals: bearing metals (brass, bronze, lead), light metals (aluminum and magnesium), and copper and its alloys. Powder metallurgy, titanium, zirconium, indium and vanadium included in this course. Prerequisite: MEC 1115.

MEC 1120 Machine Processes

Study of practices used in metalworking shops: introduction to how materials can be utilized. Demonstration of the metalworking lathes, drills, milling machines, shapers, and a study of the capabilities of these machines. Prerequisite: None.

PHYSICS

PHY 001 Pre-Technical Physics

A comprehensive review covering several of the basic principles of physics. The topics included are general laboratory procedures, properties and relationships of matter and energy, systems of measurement, force and motion.

PHY 101 Physics: Properties of Matter

A fundamental course covering several basic principles of physics. Includes solids and their characteristics, liquids at rest and in motion, gas laws and applications. Includes also laboratory experiments and specialized problems dealing with these topics. Prerequisite: MAT 101.

PHY 102 Physics: Work, Energy, Power

Covers major areas of work, energy, and power. Includes such topics as statics, forces, center of gravity, and dynamics. Also includes units of measurement and their applications. Use of practical approach in teaching students the use of essential mathematical formulas. Prerequisite: PHY 101, MAT 102, co-requisite MAT 103.

PHY 103 Physics: Electricity

Basic theories of electricity, types of electricity, methods of production, and transmission and transforming of electricity. The study includes: electron theory, electricity by chemical action, electricity by friction, electricity by magnetism, induction voltage, amperage, resistance, horsepower, wattage, and transformers. Prerequisites: MAT 101, PHY 101.

PHY 104 Physics: Light and Sound

A survey of the concepts involving wave motion. A study of sound, its generation, transmission and detection. A study of light, illumination and the principles involved in optical instruments. Applications stressed throughout. Prerequisites: MAT 102, PHY 102.

PHY 1101 Applied Science I

An introduction to physical principles and their application in industry. Topics include measurement; properties of solids, liquids, and gases; basic electrical principles. Prerequisite: None.

PHY 1102 Applied Science II

The second in a series of two courses of applied physical principles. Topics introduced are heat and thermometry, and principles of force motion, work, energy, and power. Prerequisite: PHY 1101.

PHY 1104 Applied Science III: Light and Sound

Designed to acquaint the student with some of the facts and principles concerning the properties and structure of sound and light. Major topics: waves and wave motion, characteristics of waves, theories of light, velocity of light, photometry, mirrors and lenses, reflection and refraction, and color. Prerequisite: None.

PHY 1114 Applied Science: Chemistry and Light

Course designed to acquaint the student with some of the facts and principles concerning properties and structure of matter. Major topics considered: general and specific properties of matter, atomic theory, physical and chemical changes, theories of light, photometry, mirrors and lenses, reflection, refraction, and color. Prerequisite: MAT 1101.

PLUMBING

PLU 1112 Plumbing Fixtures and Installation

The differences in materials and styles of lavatories, bathtubs, and sinks, and the many ways that these fixtures can be installed form the basis of this course. Includes the proper use of traps. Actual student practice by making installations. Prerequisite: None.

PLU 1116 Plumbing Pipework and Domestic Water Systems

Introduces students to the tools, fittings, and small equipment used by plumbers. Performance of operations such as threading, cutting, caulking, and sweating. Use of these procedures as the student learns to plan and install a complete domestic water system including hot and cold water distribution, heating devices, and the storage of hot water, and private and public sewage and drainage systems including their ventilation. Prerequisite: None.

PLU 1120 Maintenance and Trouble Shooting

Major emphasis on plumbing maintenance and the problems which the students pursuing the plumber's trade must encounter. Study of regulatory codes, standards and procedures of coal and electrical heating, smoke and nuisance controls and installations. Good practices governing the complex field of space heating with emphasis on furnaces, boilers, heaters, ducts, radiation, safety, and control of air pollution. Course designed to aid in the prevention of fires, explosions, asphyxiations, and wasteful use of materials by employment of good maintenance. Prerequisites: PLU 1116, PLU 1122, PLU 1123.

PLU 1122 Low and High Pressure Steam Systems

Familiarization with types of low and high pressure steam boilers and the principles of boiler operation. Includes boiler accessories such as connectors, fittings, and insulation; equipment used in heat transmission, such as radiators,

coils and connectors. Low pressure steam systems, their layout and component parts studied and installed. Principles involved in industrial applications of both low pressure and high pressure steam equipment. Prerequisites: PLU 1116, DFT 1110.

PLU 1123 Hot Water and Panel Heating

Study of the piping and accessory equipment needed to transfer hot water to radiators, heaters and coils, and the advantages and disadvantages of each of these units, including apparatus for radiant heating and panel heating. Methods of "sizing" equipment for various installations. Practical application in installing this equipment. Prerequisite: PLU 1116.

PLU 1125 Industrial Piping

Major emphasis upon piping systems of boilers, turbines, and steam engines especially as they are used in the chemical industry. Prerequisites: PLU 1112, WLD 1101.

PLU 1126 Hydraulic Systems Plumbing

Plumbing applications in hydraulic systems. Study of hydraulic principles, circuits, control valves, actuators, pumps, fluids, and various accessories that complete hydraulic systems. Installation and servicing methods of these systems. Prerequisite: PLU 1116.

PLU 1130 Plumbing Layouts and Codes

Sketching diagrams and schematics and interpretation of blueprints applicable to the plumbing trades. Detailed study of piping symbols, schematics, diagrams and notes. Use of applicable building and plumbing codes. Prerequisites: DFT 1110, PLU 1116.

POLICE SCIENCE

PSC 101 Introduction to Law Enforcement

A general course designed to familiarize the student with a philosophy and history of law enforcement, including its legal limitations in a democratic republic, a survey of the primary duties and responsibilities of the various law enforcement agencies, a delineation of the basic processes of justice, an evaluation of law enforcement's current position, and an orientation relative to law enforcement as a vocation. Prerequisite: None.

PSC 110 Police Role in Crime and Delinquency

The study primarily concerned with scientific efforts to understand crime and to understand man in relation to crime phenomena. It deals with those definitions and formulations of crime and criminals upon which an adaptation system of criminology must be based. It examines the law as the basic framework within which social deviations of a peculiar character assume their functions as criminal acts and those broad principles upon which a science of criminology must rest. Prerequisite: None.

PSC 115 Criminal Law

Designed to present a basic concept of criminal law and create an appreciation of the rules under which one lives in our system of government. Prerequisite: None.

PSC 201 Traffic Planning and Management

A study which covers the history of the traffic enforcement problem and gives an overview of the problem as it exists today. Attention will be given to the 3 E's and legislations, the organization of the traffic unit, the responsibilities to the traffic function of the various units within the law enforcement agency, enforcement tactics, evaluation of the traffic program effectiveness, and the allocation of men and materials. Prerequisite: None.

PSC 205 Criminal Evidence

Instruction covers the kinds and degrees of evidence and the rules governing the admissibility of evidence in court. Prerequisite: PSC 115.

PSC 210 Criminal Investigation

This course introduces the student to fundamentals of investigation; crime scene search; recording, collection and preservation of evidence; sources of information; interview and interrogation; case preparation and court presentation; and the investigation of specific offenses such as arson, narcotics, sex, larceny, burglary, robbery and homicide. Prerequisite: None.

PSC 211 Introduction to Criminalistics

Continuation of the study of criminal investigation including a general survey of the methods and techniques used in modern scientific investigation of crime, with emphasis upon the practical use of these methods by the students. Laboratory techniques will be demonstrated and the student will participate in actual use of the scientific equipment. Prerequisite: PSC 210.

PSC 220 Police Organization and Administration

Introduction to principles of organization and administration, discussion of the service functions: e.g., personnel management, police management, training, communications, records, property maintenance and miscellaneous services. Prerequisite: None.

PSC 225 Criminal Procedure

This course is designed to provide the student with a review of court systems; procedures from incident to final disposition; principles of constitutional, federal, state and civil laws as they apply to and affect law enforcement. Prerequisite: PSC 210.

POLITICAL SCIENCE

POL 102 Government—National

English and Colonial background, the Articles of Confederation and the framing of the federal Constitution. The nature of the federal union; states' rights, federal powers, political parties. The general organization and functioning of the national government. Prerequisite: None.

POL 103 Government—State and Local

A study of state and local government, state-federal interrelationships, the functions and prerogatives of the branches. Problems of administration, legal procedures, law enforcement, police power, taxation, revenues and appropriations. Special attention will be given to North Carolina. Prerequisite: None.

PRACTICAL NURSING

PNE 1101 Fundamentals of Practical Nursing

Interpretation of the role of the practical nurse student and basic knowledge to be used in performing nursing. Philosophy and objectives of practical nursing in the technical institute setting. Use of study methods and materials. Principles of interpersonal relationships in nursing. Body mechanics for nurse and patient. Sterilization and disinfection methods. Principles of medical and surgical asepsis. Use of hospital equipment. Techniques for daily hygienic patient care. Spoken and written communications for nurses. Laboratory and clinical practice in nursing hand skills.

PNE 1102 Nutrition and Diet Therapy

Designed to give knowledge of the use of nutrients for nurse and patient. Functions and sources of nutrients. The mechanics of digestion, absorption and metabolism. Principles of meal planning. Nutritional requirements for all age groups modified by religious, cultural, social, and psychological factors. Common therapeutic diets and their effect on disease conditions.

PNE 1103 Anatomy and Physiology

A study of the general plan of the body and nine systems: nervous, endocrine, skeletal, muscular, circulatory, digestive, respiratory, urinary, male and female reproductive systems. Designed for understanding how the human body controls its functions, stands erect and moves, distributes food and oxygen, removes waste and provides for survival.

PNE 1105 Introduction to Drug Administration

A study of safe techniques for oral drug administration. Knowledge of drug sources, methods of preparation and storage. Classification of drugs by use and content. Review of adding, subtracting, multiplying fractions and decimals. Systems for measuring drugs. Solving problems of measurement, conversion within systems and from system to system. Legal aspects of medication preparation.

PNE 1106 Medical-Surgical Nursing I

An introduction to nursing needs of the adult medical and surgical patient. Uses nursing knowledge gained in all courses in Quarter I. Prepares for nursing care of physical problems caused by illness, body responses to disease and pain, and assisting patients during diagnostic tests. Pre-operative and post-operative care, safety and comfort measures for the aging and meeting needs of patients with a communicable disease.

PNE 1107 Maternity Nursing

Presentation of modern aspects of maternity nursing. The nursing care of the normal obstetrical patient and newborn child. Detailed nursing care of patients during antepartum labor and postpartum periods. Emphasis on provision of better and safer nursing care for the expectant mother and her baby.

PNE 1108 Nursing of Children

Comparison of normal growth and development patterns of the newborn, school-age child and adolescent. Physical differences in the child and adult. Methods of meeting needs of the hospitalized child and his parents. Nursing care for common home and hospitalized disorders of children.

PNE 1109 Clinical Experience I

Eleven weeks experience with patients of all ages in a general hospital under supervision of clinical teachers. Five weeks of experience with young adults, adults of middle years and the aging. Six weeks of experience with mothers and newborns or with sick children from the age of newborn to the adolescent. Practice of simple hand skills and solving of simple nursing care problems. Beginning experience in making observations, using testing materials and instruments. Experience in planning, meeting and charting some simple needs of hospitalized patients. Opportunities to begin development of attitudes and skills necessary for successful practical nursing career.

PNE 1110 Medical-Surgical Nursing II

Principles and concepts of simple and complex rehabilitative nursing. Cancer nursing. Study of the nursing care and socio-psychological implications of common disorders of adults in the following body systems: respiratory, musculo-skeletal, gastrointestinal, reproductive and urinary.

PNE 1111 Drug Therapy

Factual knowledge in dosages and effects of drugs. Practice with equipment and techniques used in preparing and giving injections. Insulin therapy. Dosage problems. Storage and preparation of narcotics.

PNE 1112 Clinical Experience II

Continued experience with adults or experience with children or in the maternity/nursing units. Assignment to patients with nursing needs of the respiratory, musculo-skeletal, gastrointestinal, reproductive and urinary systems. Opportunities for planning to meet needs of patients through treatments and oral drug administration. Practice of isolation technique and oxygen therapy. Beginning this quarter each student assigned to two days' experience in operating room and recovery room observation.

PNE 1113 Medical-Surgical Nursing III

Continuation of study of disorders of body systems. Includes nursing care of medical and surgical conditions of the eye, ear, and skin. Nursing care of disease conditions of the circulatory, nervous and endocrine systems. Introduction to social illnesses of alcoholism, mental disturbances, and drug addiction. Continuation of individual observation in operating room and recovery room until every student has had two days of this experience.

PNE 1114 Clinical Experiences III

Student learns her role as an assistant to the professional nurse in caring for the more seriously ill patient. Continued experience with adult in medical-surgical nursing, pediatric nursing or obstetrical nursing under supervision of clinical teachers. Experience in more complicated nursing treatments. Assignment to patients with conditions of circulatory, nervous and endocrine systems and social illnesses. Continuation of individual observation in the operating/recovery rooms until every student has had two days of this experience.

PNE 1115 Personal and Vocational Relationships

Advanced practical nursing ethics. Medico-legal aspects of practical nursing. Organizations for the graduate practical nurse. Role of nurses in community and state. Job descriptions. Evaluating, applying, resigning positions. Work resume. Nursing errors and crimes. Continuing education. Preparation for State Board Examinations. North Carolina nursing law.

PRINTING

PRN 1101 Printer's English

Not a course for beginners in English, but intended to provide a review of the essentials of English as they relate to the art of printing. Course deals with compounding words, modern punctuation, capitalization, syllabication, contractions, homonyms, errors in English words, sentence structure, and the marks used in proofreading. Prerequisite: None.

PRN 1111 Printing Processes

A study of variety of printing plates and processes with emphasis on identification, application and evaluation. Specific processes will include lithography, flexography, collotype, gravure, and silk screen. Instruction will include demonstrations with hand cut and photosensitive films in producing copy by the screen process. Prerequisite: None.

PRN 1114 Estimating I

Theory and practice in determining costs for production printing jobs in the areas of relief printing, offset printing, and bindery. Instruction will include computing costs of materials, press capacity, selection of processes, and preparing quotes for bids. Prerequisites: PRN 1122, PRN 1125.

PRN 1121 Hand Composition

Designed to give practice in the fundamentals of hand composition which are: setting type, spacing lines, justification, tying up type forms, pulling proofs, reading proofs, correcting errors, distributing type, leaders and use of borders. A study of the elements in layout and design plus the setting of jobs to illustrate the principles of display composition which are: optical center, balance proportion, shape harmony, tone, contract, appropriateness and grouping.

Instruction includes the fundamentals and operation of composing room equipment. Prerequisite: None.

PRN 1122 Letterpress Printing I

Theory and practice of relief printing, involves the principles of the platen press, operation and practice in feeding the press. Also includes locking up forms, selecting ink, preparing the tympan, setting gauge pins, marking out a sheet, spotting up a sheet, and cutting simple overlays. Imposition of 2-, 4-, 8-, 16- and 32- page forms will be covered. Make ready and printing of various commercial forms, perforating rules, numbering machines, halftones, die cutting and scoring. Adjustment of the platen and the ink rollers are also included. Shop safety, care and oiling of presses. Prerequisite: None.

PRN 1123 Hot Type Composition I

Students gain further experience through setting straight matter, leader and tabular jobs of varying styles; advertising composition in difficult width is made up at this time. Machine maintenance and minor adjustments. Instruction in how to order parts for the machine and how to use the type specimen. Prerequisite: PRN 1121.

PRN 1125 Offset Camera I

Instruction includes the theory and practice of preparing line and half-tone negatives and positives for offset lithography. Camera settings, lens settings, chemical preparation, and film processing, an integral part of darkroom procedure, will be covered. Negative handling, stripping, making flats, and exposing presensitized plates taught as a part of the photo-mechanical process. Prerequisite: None.

PRN 1126 Offset Presswork I

Theory and practice in operating offset printing presses include experience on the Davidson, and A.T.F. Chief offset presses. Instructions include inking and water systems, registration, feed and delivery systems, roller and blanket care, and basic trouble shooting. Prerequisite: None.

PRN 1130 Letterpress Printing II

The students gain more experience in the operation of the platen presses. Most of the shop work at this time will cover the operation and care of the Heidelberg platen, Miehle Vertical, and the Kelly-C automatic presses. The make ready of commercial forms, mixed forms, two color and process color printing and production, and ink mixing will be covered in this unit. Prerequisite: PRN 1122.

PRN 1131 Estimating II

Course reviews some previous work; includes estimate jobs of a more special nature of work. Students study the complete operation of the small, medium and large plants, and how and why the selling cost is different in these plants. Materials, labor, building, equipment and administrative cost covered. Prerequisite: PRN 1114, PRN 1125, PRN 1126.

PRN Elective

Elective subject determined after a conference between instructor and student. The elective will be in the area in which the student has had the basic fundamentals of printing. Students may elect to specialize in areas of letterpress or offset printing.

PSYCHOLOGY

PSY 102 General Psychology

A study of the various fields of psychology: the developmental process, motivation, emotion, frustration and adjustment, mental health, attention and perception, problems of group living. Attention is given to applications of these topics to problems of study, self-understanding and adjustment to the demands of society. Prerequisite: None.

PSY 103 Adolescent Psychology

A study of the nature and source of the problems of adolescents in western culture; physical, emotional, social, intellectual and personality development of adolescents. Prerequisite: PSY 102.

PSY 112 Personality Development

Designed to help the student recognize the importance of the physical, intellectual, social, and emotional dimensions of personality. Emphasizes grooming and methods of personality improvement. Prerequisite: None.

PSY 206 Applied Psychology

A study of the principles of psychology that will be of assistance in the understanding of interpersonal relations on the job. Motivation, feelings and emotions are considered with particular reference to on-the-job problems. Other topics investigated are: employee selection, supervision, job satisfaction, and industrial conflicts. Attention is also given to personal and group dynamics so that the student may learn to apply the principles of mental hygiene to his adjustment problems as a worker and a member of the general community. Prerequisite: None.

PSY 1101 Human Relations

Development of understanding of relationships to other persons through some of the basic principles of human psychology. Study of the problems of the individual and his work situation in relation to society, group membership, and relationships within the work situation. Prerequisite: None.

SOCIAL SCIENCE

SOC 102 Principles of Sociology

An introductory course in the principles of sociology. An attempt to provide an understanding of culture, collective behavior, community life, social institutions and social change. Presents the scientific study of man's behavior in relation to other men, the general laws affecting the organization of such relationships and the effects of social life on human personality and behavior. Prerequisite: None.

SSC 205 American Institutions

A study of the effect of American social, economic, and political institutions upon the individual as a citizen and as a worker. Emphasizes current local, national, and global problems viewed in the light of our political and economic heritage. Prerequisite: None.

SSC 001 Sociology I

The recognition and development of human potential through emphasis on positive achievements, characteristics and attitudes. Beginning sessions will seek to establish for each student those things about himself that he can like and in which he can take pride. Early in the course students will begin a process of establishing short-term goals for themselves and taking the necessary actions to achieve these goals. Other positive processes will include an analysis of strengths, identification of personal values, recognition of latent potential and establishment of long-range goals.

SSC 002 Sociology II

A continuation of the process begun in SSC 001 with more in-depth analysis of individual potential and more emphasis on long-range goal establishment. The student will be encouraged to be aware of his feelings and to utilize them to advantage. Honest self-appraisal, development of self-confidence and a positive self-image are primary objectives.

SSC 010 Study Skills

The objective of this course is to help the student develop the fundamental learning skills necessary for effective scholastic accomplishment at the college level. Major topics covered in the course are scheduling time and working effectively, using textbooks properly, taking and organizing notes, use of the library and its facilities, improving memory and concentration, writing reports and research papers, and effective examination skills.

SURVEYING

CIV 101 Surveying

Theory and practice of plane surveying including taping, differential and profile leveling, cross sections, earthwork computations, transit, stadia, and transit-tape surveys. Prerequisites: MAT 102, DFT 107.

CIV 105 Architectural Materials and Methods

Emphasizes materials used in the construction of architectural structures. Field trips to construction sites and study of manufacturer's specifications for materials. Properties and standard sizes of structural materials, and construction techniques included. Prerequisite: None.

CIV 1101 Surveying

Basic instrumentation and topography, together with field trips and drafting room application of site surveying. Prerequisite: MAT 1104.

WELDING

WLD 1101 Basic Gas Welding

Welding demonstrations by the instructor and practice by students in the welding shop. Safe and correct methods of assembling and operating the welding

equipment. Practice given for surface welding; bronze welding; silver-soldering, and flame-cutting methods applicable to mechanical repair work. Prerequisite: None.

WLD 1102 *Applied Metal Preparation and Welding*

Welding practices on material applicable to the installation of body panels and repairs to doors, fenders, hoods, and deck lids. Student runs beads, does butt and fillet welding. Performs tests to detect strength and weaknesses of welded joints. Safety procedures emphasized throughout the course. Prerequisite: WLD 1130F.

WLD 1111 *Air Conditioning Welding*

Welding demonstrations by the instructor and practice by students. Safe and correct methods of assembling and operating the welding equipment. Practice given for surface welding; bronze welding, silver-soldering, and flame-cutting methods applicable to mechanical repair work. Prerequisite: None.

WLD 1113 *Mechanical Testing and Inspection*

The standard methods for mechanical testing of welds. Types of test covered: bend, destructive, free-bend, guided-bend, nick-tear, notched-bend, tee-bend, nondestructive, V-notch, Charpy impact, etc. Prerequisites: WLD 1120, WLD 1121.

WLD 1120 *Oxyacetylene Welding and Cutting*

Introduction to the history of oxyacetylene welding, the principles of welding and cutting, nomenclature of the equipment, assembly of units. Welding procedures such as practice of puddling and carrying the puddle, running flat beads, butt welding in the flat, vertical and overhead position, brazing, hard and soft soldering. Safety procedures stressed throughout the program of instruction in the use of tools and equipment. Performance of mechanical testing and inspection to determine quality of the welds. Prerequisite: None.

WLD 1121 *Basic Arc Welding*

The operation of AC transformers and DC motor generator arc welding sets. Studies made of welding heats, polarities, and electrodes for use in joining various metal alloys by the arc welding process. After the student is capable of running beads, butt, and fillet, welds in all positions are made and tested in order that the student may detect his weaknesses in welding. Safety procedures emphasized in the use of tools and equipment. Prerequisite: None.

WLD 1123 *Inert Gas Welding*

Introduction and practical operations in the use of inert-gas-shield arc welding. A study of the equipment, operation, safety and practice in the various positions. A thorough study of such topics as: principles of operation, shielding gases, filler rods, process variations and applications, manual and automatic welding. Prerequisites: WLD 1120, WLD 1121.

WLD 1124 *Advanced Arc Welding*

Extensive practice in the welding of different size pressure pipe in all positions. The micro-wire welding process and a thorough study of such topics as principles of operation, nomenclature of machine, filler metals and shielding gases for the different type of metals. Special processes such as hard-facing, laser

beam and ultra-sonic welding. Introduction to the welder certification procedures and practices. Prerequisites: WLD 1120, WLD 1121.

WLD 1126 Advanced Inert Gas Welding

A continuation of WLD 1123. Theory and practice in inert gas welding. Both ferrous and non-ferrous welding applications covered. Inert spot welding, CO₂ welding, gas metal-arc, micro-wave pipe welding, plasma arc, and automatic welding are taught. Special consideration given to shielding gases and certification procedures. Prerequisite: WLD 1123.

WLD 1127 Introduction to Pipe Welding

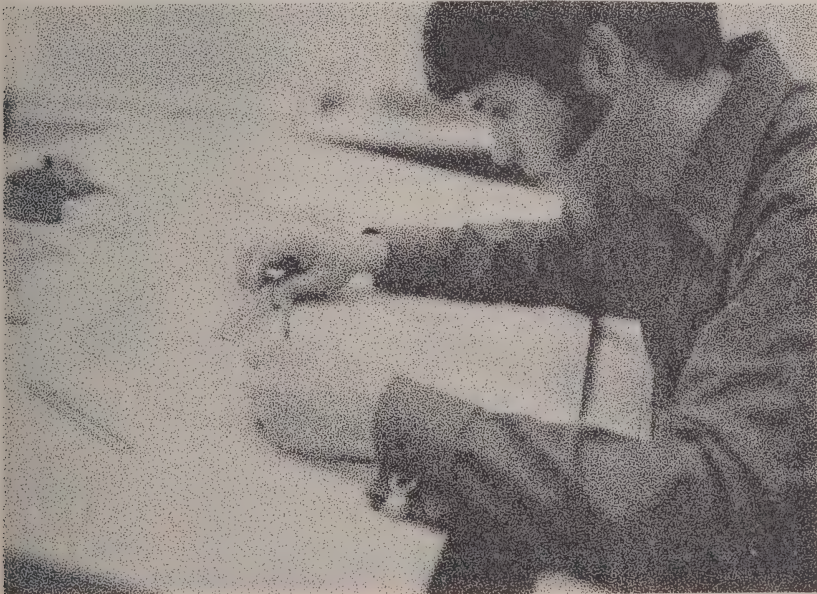
Designed to provide practice in the welding of pressure piping in the horizontal, vertical and horizontal fixed positions using shielded metal arc welding processes according to the ASME code.

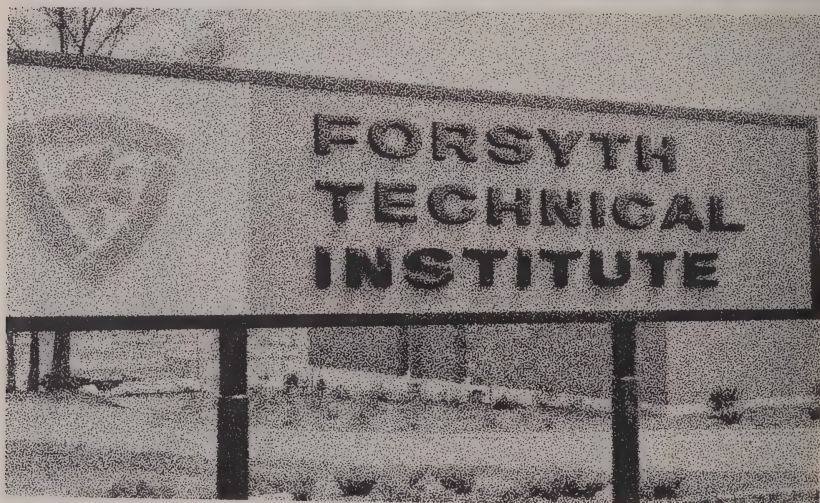
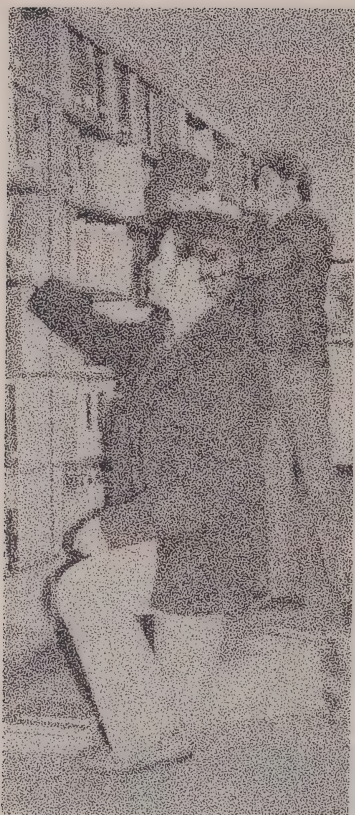
WLD 1130F Applied Basic Arc and Gas Welding

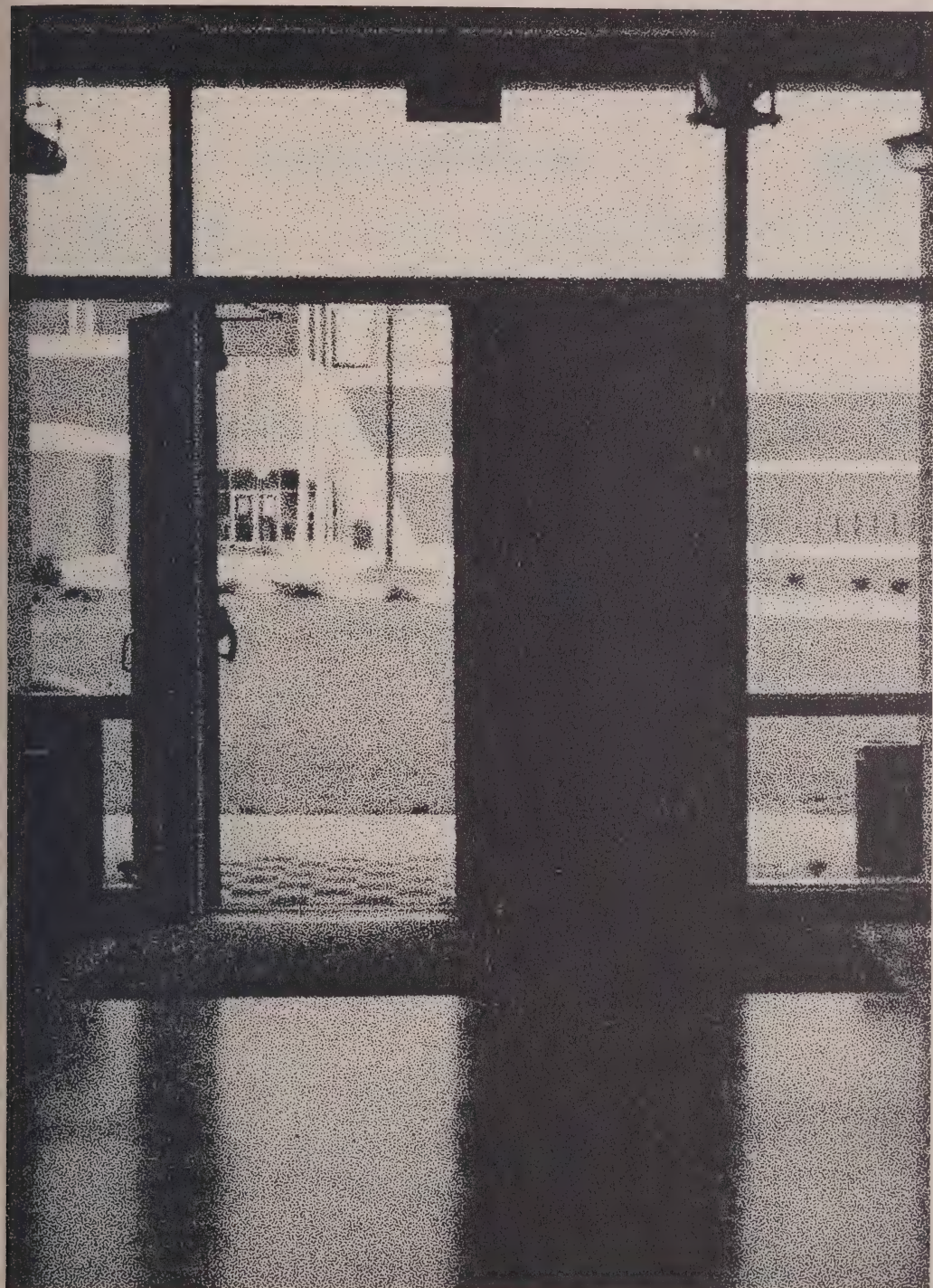
Welding demonstrations by the instructor and practice by students in the welding shop. Safe and correct methods of assembling and operating the welding equipment. Practice given for surface welding; bronze welding, silver-soldering, and flame-cutting methods applicable to mechanical repair work. Prerequisite: None.

WLD 1131F Applied Inert Gas Welding

Introduction and practical operation of the Inert Gas Welding processes. A study of the principles of operation of shielding gases, filler metals, M.I.G. guns, T.I.G. torches and T.I.G. spot guns will be covered. Special attention given to the joining of thin metals, both ferrous and non-ferrous. Safety procedures emphasized throughout the course. Prerequisite: WLD 1102.







PERSONNEL OF THE INSTITUTE

BOARD OF TRUSTEES

Chairman	Henry F. Snyder
Vice-Chairman	C. Edwin Allman, Jr.
Secretary	T. Glen Fleeman, Jr.

APPOINTED BY THE GOVERNOR

	Term Expires
Emil N. Shaffner	1971
Marvin J. Mulhern	1973
C. Edwin Allman, Jr.	1975
Clyde F. McSwain	1977

APPOINTED BY THE COUNTY COMMISSIONERS

Douglas R. Boyer	1979
Henry F. Snyder	1973
W. O. Barrett	1975
Grady P. Swisher	1977

APPOINTED BY THE WINSTON-SALEM/
FORSYTH COUNTY BOARD OF EDUCATION

Mrs. H. C. Lauerman	1979
Mrs. G. G. Young	1973
Dallas F. Chappell	1975
Vann H. Johnson	1977

ADMINISTRATIVE OFFICERS

Personnel
Instruction
133

°Ernest B. ParryPresident
Paul D. AppleDean of Instruction
Audrey S. KirbyDirector of Student Services
Ray C. CatesDirector of Business Affairs

INSTRUCTION

Paul D. Apple, Dean

Curriculum Programs

Grace B. CoreyDepartment Head Related Studies
Donald B. TrotterDepartment Head Engineering Technologies
Thomas A. TaylorDepartment Head General Business
Margaret B. HollandSenior Instructor Health Education

Learning Resources Center

Library:
Audrey B. ZablockiChief Librarian
Brenda G. BlairAudio-Visual Technician

Learning Laboratories:
Robert L. SternChief Coordinator
Anne M. TeacheyCoordinator
Ernest W. TompkinsCoordinator

Adult Education

Glen T. Fleeman, Jr.Director
L. T. WilliamsAssociate Director Occupational Extension
R. Shelton JonesAssociate Director General Adult Extension
Velma A. JacksonSupervisor Adult Basic Education
Joby MatthewsSupervisor Manpower Development

°Resigned

STUDENT SERVICES

Audrey S. Kirby, Director

Rebecca Shepard, Counselor R. Paul Day, Counselor

George McLendon, Counselor * Evening Counselor

Merial B. Holland, Registrar

*To be filled

Placement Services

(A cooperative placement effort between the Employment Security Commission and Forsyth Technical Institute)

Richard J. Vitek, Placement Officer

COMMUNITY AND COLLEGE RELATIONS

Jean R. Perkins, Director

BUSINESS AFFAIRS

Ray C. Cates, Director

Christine Phifer, Accounting Cameron Wade, Book Store
Manager Manager

Sam Simmons, Superintendent Building and Grounds



FACULTY AND STAFF

*Personnel
Faculty,
Staff*
135

- Apple, Paul D.** Dean of Instruction
B.S. Bowling Green State University; M.A. Toledo State University
- Atkins, Harold L.** Horticulture
B.S. and M.S. North Carolina State University
- Bass, Joseph B.** Architectural Technology
B.S. Architecture North Carolina State University; North Carolina Registered Architect
- Beeson, John E.,** Senior Instructor Mechanical Engineering
Technologies
B.S.M.E. North Carolina State University; Professional Engineer State of North Carolina
- Blair, Brenda G.** Audio Visual Technician
A.A.S. Guilford Technical Institute
- Boger, W. L.,** Department Head Welding
Undergraduate study Wake Forest University, North Carolina State University, University of North Carolina-Greensboro, Western Electric Wenoca School; Metals Engineering Institute; Certified; Aircraft and Missile Welding; Military Specification T-5021.
- Cates, Ray C** Director of Business Affairs
B.S. North Carolina State University; M. Ed. University of North Carolina; Certificate, Business Manager's Course, University of Omaha; further graduate study, University of North Carolina-Greensboro.
- Chadwick, H. Leslie** Mathematics
A.B., M.A. East Carolina University; further graduate study George Peabody College, Duke University
- Corey, Grace B.,** Department Head Related Studies
B.S. University of North Carolina-Greensboro; M. Ed. University of North Carolina-Greensboro
- Crosby, Frances L.** Practical Nursing
Registered Nurse; B.S. Nursing Winston-Salem State University
- Dalton, Patricia G.** Executive Secretarial Science
B.S. University of North Carolina-Greensboro; M.Ed. University of North Carolina-Greensboro
- Darden, Jean L.** Practical Nursing
Registered Nurse; Watts Hospital School of Nursing; further study Wake Forest University and University of North Carolina, Chapel Hill

- Day, R. Paul** Counselor
B.B.A. University of Minnesota; M. Ed. University of North Carolina-Greensboro
- Day, Walter R.** Business Administration
B.S. Campbell College
- DeRamus, Sarah I.** English
A.B. University of North Carolina Chapel Hill; M.A.T. University of North Carolina-Chapel Hill
- Elkins, Zona J.,** Senior Instructor Business Administration
A.B. Catawba College; M.S. Syracuse University
- Fishel, Lloyd V.** Manufacturing Engineering Technology
A.A.S. Gaston Community College
- Fishel, Wilburn C.,** Senior Instructor Auto Body Repair
Twenty-three years experience as body repairman; certified State Fire Service Instructor
- Fleeman, T. Glen** Director, Adult Education
B.S. Concord College; M.Ed. University of North Carolina-Greensboro
- Forrest, William C.** English
B.A. University of North Carolina-Charlotte; M.A. Appalachian State University
- Foster, Lloyd L., Jr.** Electronics Engineering Technology
B.S. Virginia Polytechnic Institute; M. Ed. University of North Carolina-Greensboro
- Gardner, John E.,** Senior Instructor Electronics, Radio and
Television
Diploma Coyne Electrical School; Diploma R.C.A. Institutes; Certificate (Motorola) Solid State Color; attended Capitol Radio Engineering Institute
- Gray, Retta W.** Pre-Technical Program
B.A.E. University of Florida; graduate study University of Florida, Florida State University, Western Carolina University, Jacksonville University, and Davidson College
- Haire, Martha L.** Practical Nursing
Registered Nurse, North Carolina Baptist Hospital School of Nursing; B.S. Wake Forest University; further study North Carolina State University
- Hege, Raymond,** Senior Instructor Carpentry
Thirty-five years experience in field of carpentry
- Hines, Harvey,** Senior Instructor Automotive Mechanics
North Carolina State University; further study General Motors Training

Center, Ford Motor Company Training School, High Point College, North Carolina State University	<i>Personnel Faculty, Staff</i> 137
Hinson, Tommy R., Senior Instructor Mathematics A.A. Wingate Junior College; B.S. Appalachian State University; M. Ed. University of North Carolina; further study Wake Forest University	
Holland, Margaret B., Senior Instructor Health Education Division Practical Nursing Registered Nurse, North Carolina Baptist Hospital School of Nursing; Mitchell College and University of North Carolina-Greensboro	
Holland, Merial B. Registrar B.A. University of South Carolina	
Humphrey, Hilliard R., Senior Instructor Plumbing and Heating B.S. North Carolina Agricultural and Technical College; Hampton Institute; further study Guilford Technical Institute	
Hunter, Larry H., Senior Instructor Graphic Arts B.S. Arkansas State University; Diploma in Printing, Chowan College	
Jackson, Velma A., Supervisor Adult Basic Education B.S. Winston-Salem State University; M.A. Columbia University, New York City; Professional Diploma in Guidance, Columbia University; further study University of Wisconsin	
Johnson, Albert S Drafting B.S. North Carolina State University	
Johnson, Gary C. Mathematics and Physics B.A. Elon College; M.S. in progress Wake Forest University	
Jones, Lester M., Senior Instructor Air Conditioning Graduate, Coyne Electrical School, Chicago, Illinois; Certificate Refrigeration Service Engineers; Philco-Ford Corporation Training Programs	
Jones, R. Shelton, Associate Director Adult Extension B.S., M.S. Virginia Polytechnic Institute	
Kahl, George H., Senior Instructor Diesel Truck Maintenance and Repair A.A.S. Milwaukee Institute of Technology; B.S. Stout University; undergraduate study Drake University; M. Ed. University of North Carolina-Greensboro	
King, Mary L. Practical Nursing Registered Nurse, Maryview Hospital School of Nursing	

Kirby, Audrey S., DirectorStudent Services
B.S., M.A. Appalachian State University; graduate study North Carolina State University and University of North Carolina-Greensboro

Lee, Linda M., Senior InstructorEnglish
A.B. Wake Forest University; M. Ed. University of North Carolina-Greensboro

Lundgren, Loren WBusiness Administration
B.S. Northern Illinois University; further study Northern Illinois University and North Carolina State University; M. Ed. in progress University of North Carolina-Greensboro

McMahan, Donna BryteElectronic Data Processing
B.S., Lenoir-Rhyne College

Maloyed, Bayard Douglas,
Senior InstructorElectrical Installation
Graduate, Coyne Electrical School, Chicago, Illinois; Certificate, National Electrical Code, North Carolina Electrical Contractors Association; North Carolina State-Wide Unlimited Electrical Contractor's License

Matthews, Joby, SupervisorManpower Development
Training
B.A. Wake Forest University

Mayerchak, Thomas J.Mechanical Drafting and
Design Engineering Technology
Newark College of Engineering; LaSalle University

McLendon, GeorgeCounselor
B.S. Winston-Salem State University; further study Lenoir Rhyne College, North Carolina Agricultural and Technical State University, Wake Forest University; M. Ed. in progress, University of North Carolina-Greensboro

Metts, Alvin S.Mathematics, Physics
B.S. North Carolina State University; graduate study, Radford College, Radford, Virginia

Parry, Ernest B.President
B.S. Oswego State Teachers College; M. Ed. University of Maryland; Ed. D. University of North Carolina-Chapel Hill

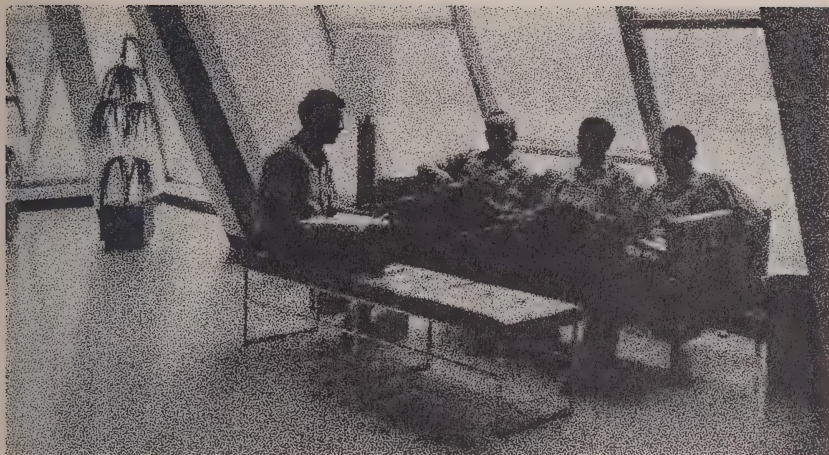
Parsons, Ralph D., Senior InstructorPhysics
B.S.E.E. North Carolina State University

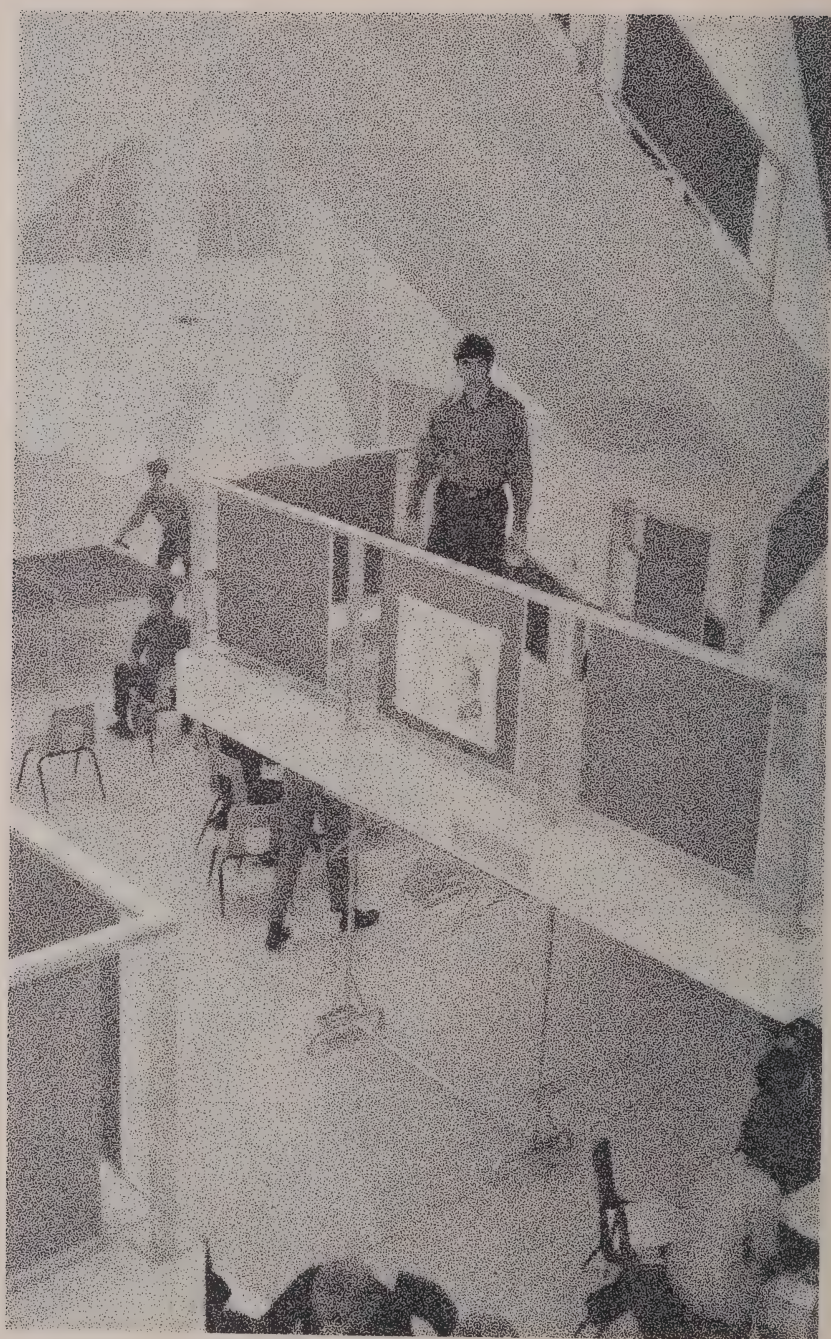
Perkins, Jean R., DirectorCommunity and College Relations
Radford College, Radford, Virginia; special training, Long, Haymes and Carr Advertising and Public Relations, Winston-Salem

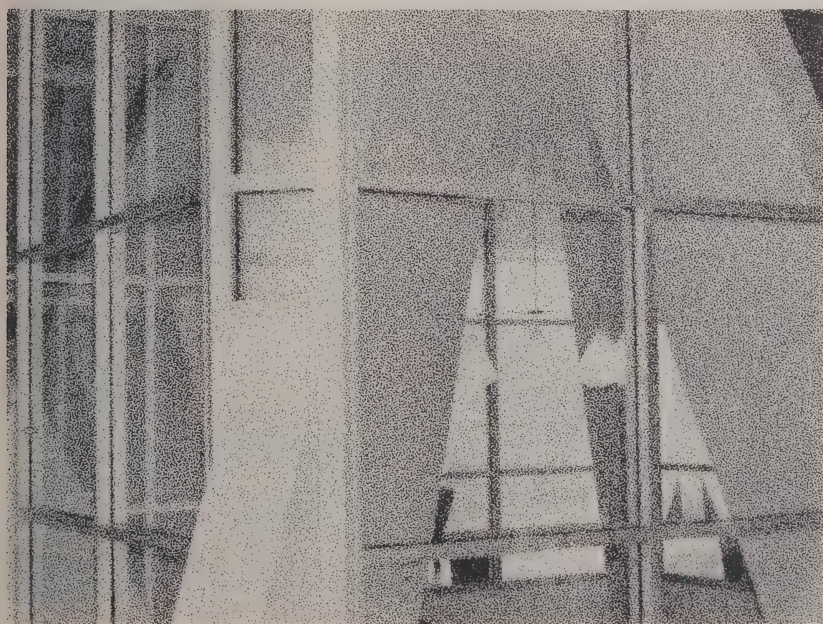
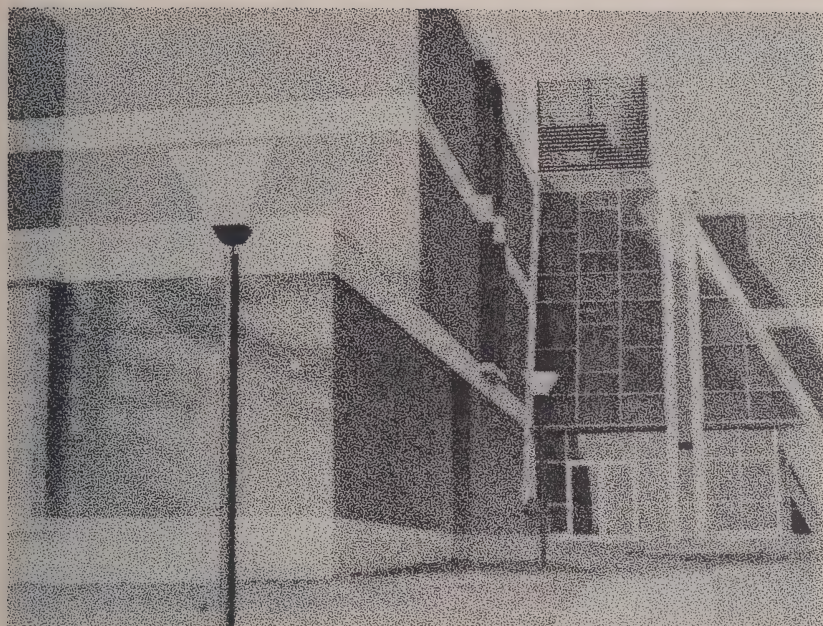
Phifer, ChristineAccounting Manager
A.A.S. Mitchell College; special study Daytona Beach Junior College

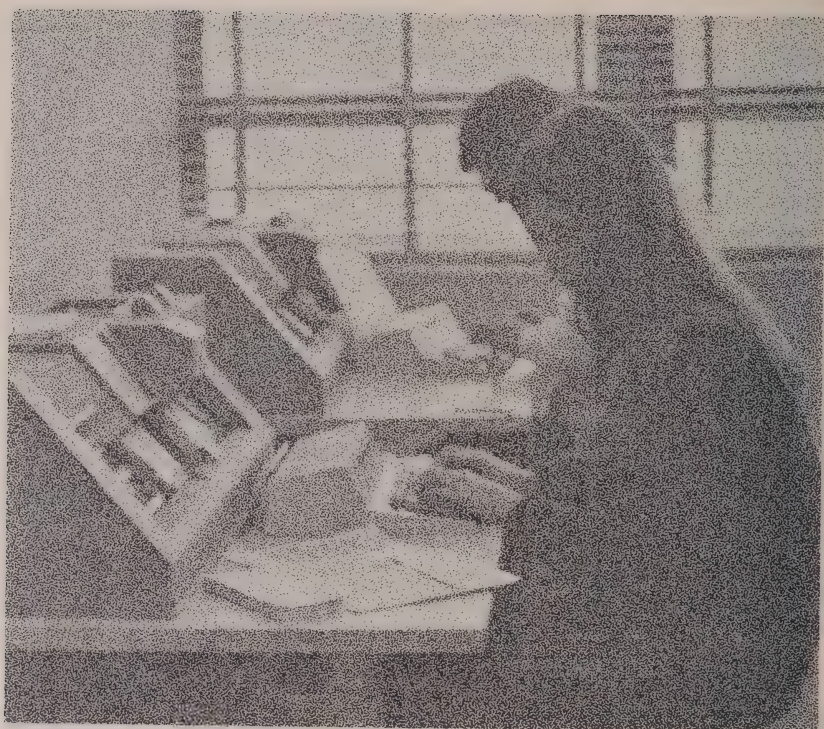
Reed, Stewart W. , Senior Instructor	Electronics	<i>Personnel Faculty, Staff</i> 139
B.S. University of Alabama; M. Ed. University of North Carolina-Greensboro		
Roberts, David L	English, Social Science	
B.A. Wake Forest University; M.A.T. Duke University		
Ross, Barbara W. , Senior Instructor	Executive Secretarial Science	
A.B. Lenoir Rhyne College; M. Ed. University of North Carolina-Greensboro		
Shepard, Rebecca	Counselor	
A.B. University of Georgia; M. Ed. University of North Carolina-Chapel Hill; graduate study Tulane University; advanced graduate study University of North Carolina-Chapel Hill and North Carolina State University.		
Staley, Thomas R.	Business Administration	
B.S. Appalachian State University; M. Ed. University of North Carolina; further study Guilford College		
Stern, Robert L. , Chief Coordinator	Learning Laboratory	
B.J. University of Missouri		
Stephenson, Andrew H.	Business Administration	
B.A., B.S. High Point College; M. Ed. University of North Carolina-Greensboro; advanced study George Washington University, Marine Corps Institute		
Stewart, Mary H.	Practical Nursing	
Registered Nurse, B.A. Lenoir Rhyne College; B.S. Nursing Johns Hopkins University; M. Ed. in progress Wake Forest University		
Stowers, Marilyn H. , Coordinator	Pre-Technical Program	
B.A. Atlantic Christian; M. Ed. University of North Carolina-Greensboro; graduate study University of North Carolina-Chapel Hill and Wake Forest University; further study Queens College and Orton Reading Center		
Taylor, Thomas A. , Department Head General Business	Agricultural Technology	
B.S., M.S. North Carolina State University; two years toward Ph.D. in Biochemistry North Carolina State University		
Teachey, Anne M. , Coordinator	Learning Laboratory	
B.S. University of North Carolina-Greensboro		
Tedder, Jake D.	Business Education	
A.A. Pfeiffer College; B.S. University of North Carolina-Chapel Hill; M. Ed. University of North Carolina-Greensboro		
Tharpe, Betty H.	Building Trades Drafting	
Western Electric Training School; General Electric Design course		

- Tisdale, Mildred C.,**
Senior InstructorElectronic Data Processing-
B.S. Wake Forest University Business
- Tompkins, Ernest Wayne, Coordinator**Learning Laboratory
B.S., B.A. Jacksonville State University of Alabama
- Torrence, Jeanne**English, Psychology
A.B. Pfeiffer College; M.A. candidate, University of Tennessee
- Trotter, Donald L., Department Head,**
Engineering TechnologiesElectronics
B.S.E.E. North Carolina State University; North Carolina Registered En-
gineer
- Vitek, Richard J.**Job Placement Officer
A.B. University of North Carolina-Chapel Hill; graduate study University
of North Carolina-Chapel Hill
- White, Norman**Welding
Special training North Carolina State and Pratt Institute, Brooklyn, N.Y.;
Anaconda Welding Training Program; Certified: U.S.A.F. Mil-T5021 and
U. S. Navy Specifications; graduate U.S.A.F. Airplane Mechanics, Aerial
Gunnery and Aerial Gunnery Instructors School
- Whitehead, H. D., Senior Instructor**Machine Shop
Undergraduate study North Carolina State University; further training
N.Y.A. Machinist Instructor School
- Wilder, William B.**Automotive Mechanics
Chowan College; Forsyth Technical Institute
- Williams, L. T., Director**Occupational Extension
B.S. Western Carolina University; further study North Carolina State Uni-
versity; M. Ed. University of North Carolina-Greensboro
- Young, Leonard H.**Diesel Truck Maintenance and Repair
Diesel Truck Maintenance and Repair, Cummins Engine Company; further
training Bendix-Westinghouse, General Motors Corporation, Caterpillar
Tractor
- Zablocki, Audrey B.**Chief Librarian
B.S. Appalachian State University; M. Ed. University of North Carolina-
Greensboro; advanced professional study, School of Library Science, Uni-
versity of North Carolina-Chapel Hill; Certified Media Specialist, HEA II
Chapel Hill









The faculty of the Institute hold memberships in the following learned societies and professional associations:

The American Association of Junior Colleges
The American Association of University Professors
The American Association of University Women
The American Institute of Architects
The American Institute for Design and Drafting
The American Junior College Public Relations Association
The American Library Association
The Orton Society
The American Nurses Association
The American Personnel and Guidance Association
The American Society of Engineering Education
The American Society of Heating, Air Conditioning, and Refrigeration Engineers
The American Society of Metals
The American Society of Tool and Manufacturing Engineers
The American Welding Society
Beta Beta Beta
Beta Phi Mu
Chi Lambda Chi
College News Seminar of the Carolinas
The College Reading Association
Delta Pi Epsilon
Delta Sigma Theta
The Department of Audio-Visual Instruction NEA
The Engineers Club of Dayton, Ohio
The Forsyth Council of the International Reading Association
Governor's N. C. Commission on Education and Employment of Women
The International Reading Association
Iota Lambda Sigma
Kappa Delta Pi
The National Classroom Teachers Association
The National Education Association
The National Electrical Contractors Association
The National Electrical Inspectors Association
The National Society of Professional Engineers
The National Technical Education Association
The National Vocational Association
North Carolina Adult Education Association
North Carolina Business Education Association
North Carolina Developmental Studies Association
North Carolina Education Association
North Carolina English Teachers Association
North Carolina L. A.
North Carolina State Fire Service Instructors Association
North Carolina State Nurses Association
North Carolina Student Services Association
North Carolina Vocational Association
Numerical Control Society
Maintenance Council of N. C. Motor Carriers Association
Phi Beta Kappa
Phi Delta Kappa
Phi Kappa Phi
Pi Gamma Mu
Society of Manufacturing Engineers
Winston-Salem Business and Professional Women's Club
Winston-Salem Engineers Club
Winston-Salem Mayor's Committee on Employment of the Handicapped

